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FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.

Theodore Roosevelt

Vol. XVII No. 1 Washington, D. C. January 2, 1933

WHAT'S IN A NAME

By E. E. Carter, Washington

I want to join the Amen Chorus on the article by Mr. Munns about place names, in the December 5 Bulletin, especially concerning the names of features previously unnamed; but I also want to give a word of caution about his suggestions for changing old names. It can not always be done. The Forest Service can not lead the public to adopt any change of name we may propose. Local usage will persist in many cases, once it is firmly established. And the experience of thirty years has taught the U. S. Geographic Board that local usage is the Supreme Court for place names, especially for important features or for places known to or visited by many people. The Board does not originate names. Primarily, it settles disputes over names. In doing so, it first seeks to know what the name of the feature is in common local use, if any exists, and usually approves that name unless there are strong reasons against that action. Occasionally local usage even insists on changing a name, as in a recent Vermont case where a name at least 75 years old and appearing on all U. S. and local maps of the vicinity has been discarded by the local people during the last 15 years, and a new one substituted. The Forest Service has had to recommend that the Government follow, although preferring the old name for its associations and its use in past history.

Changing an old name is not always as simple as Mr. Munns indicates. Even Clear Creeks, Beaver Creeks, Indian Valleys and the like may have real historical significance, and ought not to be changed. If we attempt a change by ourselves, someone or some organization is almost sure to point out the conflict sooner or later, and ask for a U. S. Geographic Board decisions, which would probably be against the Service under the conditions presupposed by Mr. Munns. A much better way is to make a frank statement of the case ourselves, stating why we want the Board to establish the new name. As a member of the Board, I know that it is sympathetic to changes which are necessary to facilitate administration, as by removing confusion due to the duplication of nemes within a limited territory. At the December meeting, for example, it approved the elimination of one of the too-numerous Beaver Creeks on the Medicine Bow and the remaining of it for the first settler on that minor drainage. "Tell the truth and shame the Devil" of confusion.

Again, once a name has been established by a Board decision, that name and no other must be used for the future by all branches of the Federal Government. This is by direction of the President. We do not have to give a feature a name on our maps, but if there is a Board decision for it and we want our maps to carry a name for it, only the name approved by the Board may be used unless and until that decision has been vacated. A number of old decisions have been vacated by the Board on the initiative of the Forest Service, chiefly on the ground that local usage has refused to follow the old decision, and, more rarely and in the absence of any large local usage, to remove confusion. But it takes a clear showing of need, and an appropriate, distinctive name to be substituted, to get the Board to change a decision. This is as it should be.

What Munns had in mind, I judge, is the opportunity for influencing local usage as to names of minor features not covered by previous Board decisions. It can be done by getting into use terse, punchy names that are distinctive. A lot has been done already, and more can be done. But old, well-established names can not be changed by the Forest Service at its will.

RAISING TREES FOR REFORESTATION

By William F. Dague, District Forester,
Moshannon State Forest District, Pennsylvania

In Pennsylvania there are vast areas that must be reforested if they are ever to become productive. Some of the original white pine and hemlock regions, which were lumbered from 1850 to 1910 and which afterwards were swept repeatedly by fires, now contain very little, if any, valuable tree growth. Scattered throughout the State are thousands of small tracts and farms that were cleared during and since the lumbering period for agricultural purposes, and have since been abandoned. In the soft coal and the anthracite regions there are extensive unproductive areas covered with scrub oak and other commercially worthless growth.

These potential planting areas contain various kinds of soil and support many different kinds of growth. They differ greatly in climatic range, and require a careful choice of species whose hardiness, age, and size are adapted to the local conditions. Climate especially plays an important part in the distribution of forest types and individual tree species.

Silviculturists have found that red pine in the Lake States grows under mean summer temperatures varying from 56 degrees to 66 degrees Fahrenheit. Temperature is important from a silvicultural standpoint. It has been determined in northern Europe that, if the variation of the mean summer temperature of a planting site differs by so much as one degree Centigrade from that of the seed source, results may be only 65 per cent as good as if home grown seed had been used.

In the Clearfield State Forest tree nursery we have found that white pine seedlings, raised from seed obtained in northern New York, at the end of the third growing season were at least one-third less in size than those raised from seed obtained locally.

Short-leaf pine seed sown in the Mont Alto State Forest tree nursery developed into very nice seedlings. When short-leaf pine seed was sown in the Clearfield nursery, a site further north and with a higher altitude, the germination was poor and the seedlings has a yellowish, sickly appearance. On the other hand, red pine and Scotch pine plantations in the central part of Pennsylvania had a healthier appearance than those grown in localities where the average summer temperature is greater than 66 degrees F.

In the beginning of the forestry movement in Pennsylvania it was the custom for the foresters to attempt to establish records. Each forester tried to accomplish the greatest amount of work in the shortest time and at the least cost. Detailed supervision by the forester in charge resulted in some of our earliest plantations being established with two-year seedlings at a cost which would be unbelievably low today. No activity was given such detailed supervision as the raising of nursery stock and there was no activity in which there was greater friendly rivalry. Every effort was made with labor saving devices and quantity production to lower the cost of raising seedlings.

It was inevitable that a time should come when foresters would realize that an operation, which cost but a few dollars and which rendered but very limited services, was not as economical an investment as one that rendered full service though it cost more. So, instead of spending from $3 to $6 an acre to establish a plantation with two-year seedlings and then waiting for results, we are now planting much larger stock and spending from $8 to $15 per acre with greater assurance of success. Instead of spending $.44 to $.85 per thousand for two-year seedlings, we are now raising large healthy seedlings and transplants and are spending from $3 to $10 per thousand.

In a bed unit of 100 square feet where formerly we produced 8,000 to 15,000 two-year seedlings, we are now producing only 1,000 to 3,000 trees. Two-year seedlings today are usually as large as some of those sold by commercial nurseries as three-year seedlings, and have much better root systems. This improvement has been brought about largely by systematic application of moisture, cultivation, and fertilizers.

Today there appears to be just as much a problem in producing seedlings that are too large and unbalanced as there was at one time in having seedlings too small. When the nurserymen are threatened with this condition the seedlings are root-pruned by running a pruning blade through the soil. This treatment retards top growth and develops the root systems. The only thorough way of reducing the density of a stand in a bed is by plucking out the weak and suppressed seedlings until the stand is of the desired density. Our stands are now so regulated that there are less than 80 trees to a square foot.

The four State Forest tree nurseries in Pennsylvania raise about ten million trees annually, of which nearly ten per cent are transplants. Both seedlings and transplants are stocky and well balanced as to root system, diameter of stem, and size of top.

RANGER JIM MAKES A SPEECH

Ranger Jim Robbins' campfire speech in the thirty-eighth episode of the radio drama "Uncle Sam's Forest Rangers" brought a deluge of enthusiastic fan mail and a number of requests for copies, we learn from C. E. Randall, author of the dramatization. Evidently the speech made a hit and we are therefore reproducing it in case any members of the Service are interested. It follows:

"I've been riding the National Forest trails for twenty-five years now, boys. I came to this job of Forest Ranger a young fellow without much experience but with high ideals. Twenty-five years of hard work on the Forests have brought me a lot of experience, but they haven't shaken my faith in those ideals a bit. I still see the Forests as one of God's greatest gifts to mankind, serving us in an infinite number of ways, and asking only our care and protection to enable them to keep on serving us always. As a young Ranger, I thought it would be easy to make everybody else see the forests the same way, and stop being careless and indifferent about doing the things that damage them. But I've learned since that some folks don't change their ways so easily. A lot of folks still go on being careless with fire in the woods, and never stop to think that the forests must be kept growing if they are to continue to serve us.

"I've learned to love these forests more and more. For twenty-five years I've worked for them and fought to protect them. And I'm still fighting. -- Do you realize what these forests of ours mean to us? They give us wood for our homes and for our industries, and for thousands of uses; they cradle our great rivers at their birth, and help to provide us with steady and abundant supplies of pure water; they give shelter to our bird and animal friends;

they offer us a refuge from the dizzy whirl of modern life, a chance to play, and a chance to keep up our acquaintance with our good old Mother Nature. They give us the kind of beauty and inspiration that makes life worth living.

If we neglect our forests, if we fail to protect them, we have left only barren waste. If we care for them, if we help them to renew themselves, if we guard them against fire and misuse, they will continue to serve us for all time.

"I want you boys to love the forests as I do. It isn't a blind, sentimental love. It's a practical sort of love, you see, that makes me want to work for my forests, to make them better, to help them give their best for our own and our country's good. I think ervrybody will come to love the forests as I do. And when everybody is ready to do his part for the forests' welfare, and to make sure that no act of his will do the forests harm, I'll be ready, when the time comes, to hit the trail over the Great Divide with a song in my heart.

"The forests extend their services to us all; their benefits go far beyond their boundary lines, and continue through the years to come. And so we Rangers guard them in the interests of all. We try to grow forests for the years; we work for the forests that long shall endure; we try to give "service immortal and sure."

YE EDITOR'S NEW YEAR WISH

At this time of year, we find ourselves wondering if we have done as well by our readers as we might during the past year and how we can make the Service Bulletin more interesting and useful during the next year. We have received some splendid articles in the past and naturally feel grateful for them. We have been disappointed at times, however, that more of our men and women in the great open spaces and far-flung Forests did not send us contributions. With the coming of the New Year, it is our hope that large numbers of our readers will turn over a new leaf and join the ranks of writers as well as readers of the Service Bulletin.

HUNTING RIGHTS

Countless farmers have for nothing what a great many city folks would pay good money for - the opportunity to shoot game. They can get some of this money the city sportsmen would so gladly spend by raising game, stocking farm land and selling the hunting rights. In short, the farmers can have their cake and eat it too. That it is perfectly possible to sell hunting rights is indicated by farmer-sportsmen partnerships that have been organized here and there.

"We all know there are hundreds of men in this State who would gladly pay and pay quite lavishly for the privilege of having a good shoot," says Pierre Garven, former member of the Nevada fish and game commission. Mr. Garven then proceeds to point out that the raising of game birds - quail, pheasant, etc., - can be made a profitable sideline on farms in Nevada, just as has been the case in other States.

It is true, of course, that the best farm land for hunting is that with plenty of natural cover. The game birds can be raised in captivity, however, then sold to sportsmen to be set free elsewhere.

Raising quail and pheasant in captivity is no trick. There are numerous game farms, State-owned and private, that produce thousands of birds each year. One that is typical of others is the Wicomico State game farm, in the outskirts of Salisbury, Maryland. Around 5,000 young quail constitutes the 1932 crop. This farm started from 29 pairs of quail three years ago. Hatching and brooding are done artificially. Commercial rations are used.

In some sections best results in protection of game birds will call for trapping of furbearing animals which are enemies of bird life. The income from pelts constitutes still another source of income. - From The National Farm Journal, November, 1932.

YES, WE HAVE CHESTNUT BLIGHT!

By L. S. Gross, R. 7.

On November 5, the Washington Post carried an editorial entitled, "Chestnut Blight Ends." The Editor pointed out the damage done by the chestnut blight and stated "it has been announced" that the blight has run its course. He further stated:

> "By some curious good fortune the chestnut blight did not extend to the more southerly districts known as the Appalachian forest area. Here hundreds of thousands of trees continue to flourish, providing both nuts and timber. Hundreds of millions of feet of chestnut lumber are marketed by numerous sawmills throughout this section.* The younger generation in the east do not realize what a treasure they lost in 'the spreading chestnut tree,' or how many uses it served besides shading the village smithy. It is good news that future generations are to make the acquaintance of this friend of their forefathers."

It is perfectly true that near the southern end of the natural range of the chestnut there still remain many million feet of sawtimber in good condition. Dr. Gravatt of the Bureau of Plant Industry, however, in response to a telephone inquiry, stated that he and the men working with him on the chestnut blight have no reason to believe that the disease has stopped or has been noticeably checked.

It is true that the chestnut, being a vigorous sprouter, continues to send up crop after crop of stump sprouts after the parent tree has been killed by the blight. It seems possible that over a long period of years some of these sprouts may develop blight resistance to the extent that the chestnut may again become, in certain localities, a component of the timber stand. So far as can be determined at present, however, this to-be-hoped-for result may not be expected to occur until some time far in the future.

OUR RELATIONS WITH PEOPLE

Every once in awhile one hears a Forest Service officer say, "Oh, I have no important public relations problems." This attitude is often due to a misconception of what the term "public relations" means. Substitute for it another term with precisely the same meaning, namely, "relations with people", and the error becomes clear at once. When we stop talking about public relations and say, "Now what are my relations with people? Why are they important? What should I do about it?" - we begin to get a grasp of the problem that we otherwise should not have. All public service organizations, and that is just what the Forest Service is, come in contact with people, and all depend upon people for their progress and success.

We should recognize the public interest in the truth about our affairs. Everything we do we are doing for the public--we are rendering some service to them. Our whole organization, our whole effort and attention are focused upon the public interest. Yet we fail so often to recognize that the public has this very basic concern in the truth about us and what we do. In all our public relations work let us keep this simple thought in the foreground, "Truth beareth away the victory". - R-5 Bulletin.

YE EDITOR DISCOVERS

A newspaper story recently carried by one of the press associations made some to-do about a so-called "fireproof tree," the Oregon alder. The story has been reappearing in the press so frequently (and growing all the time) that a statement of the known facts concerning Oregon alder seems in order. The following data are given us by E. E. Carter:

Oregon alder is a broadleaf tree. Its leaves do not contain pitch and consequently the foliage is much less inflammable than are the needles of coniferous trees. On moist ground west of the Cascades it grows to heights of 80 to 100 feet. The tree has therefore been tried on an experimental scale as a means of forming firebreaks in plantations of Douglas fir, Sitka spruce, and other coniferous species in Washington and Oregon. There is little evidence as yet as to what its value is for the purpose, but under certain conditions it ought to serve the purpose at least partially during the first fifty to seventy-five years of the life of plantations. One limitation on its use for firebreaks is the fact that it does not grow well except where there is abundant moisture in the ground. On well drained ground it will soon be exceeded in height by such coniferous species as Douglas fir or Sitka spruce.

Recent reports that the Forest Service has adopted the planting of alder firebreaks as a standard practice in its plantation work on the west side of the Cascades are incorrect. The Forest Service is testing the use of alder for the purpose and present indications are that its usefulness will be limited. A more important measure for the protection of plantations is the felling of snags which stand for many years as evidences of past fires and which when they catch fire throw burning bits of rotten wood for long distances.

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The annual meeting of the Government Employees Mutual Relief Association was held in the Atlantic Building, Washington, D. C., on the afternoon of December 10. The President of the Association reported that notwithstanding an unusually heavy draft on the Association's resources during the spring and early summer the year closes with a cash balance in excess of the balance at the close of last year, and that the surplus, invested in first mortgage real estate notes, is unimpaired. The Association has never been in a stronger financial condition than at present.

George K. Denmark of the Geological Survey and Charles H. Squire of the Forest Service were reelected members of the governing committee for a term of three years.

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The proposed State Park in the San Jacinto division of the San Bernardino National Forest, California, is carried one step closer to realization by the final consummation of an exchange with the Southern Pacific Land Company, under which title to 9,794 acres has been accepted by the United States and the railroad company shortly will receive patent in lieu thereof to 6,234 acres. The offered lands contain 28,468 board feet of timber and are valued at $42,290. The selected lands contain 35,393 board feet of timber and are valued at $41,901. The National Forest lands selected by the Southern Pacific Land Company are to be sold to the State, and, in conjunction with other intermingled lands already in state ownership, are to be acquired and will constitute a unit in the State Park system.

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The Christmas holidays found the field men who had been for weeks struggling with the Copeland Report scurrying on their homeward way. Most of the report is now finished, but the figures have to be checked from one end of the report to the other. Practically the entire Section of Forest Measurements is now engaged in checking the figures and tables. The date on which this historic document will be completed has not yet been determined.

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A resolution expressing appreciation for the establishment of the Quinault National Area on the Olympic Forest was unanimously adopted at the recent annual meeting of the Olympic Development League, a civic organization of Olympic Peninsula communities in Washington.

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George E. Stoltz of the Flathead Forest has been detailed to the Washington office of Public Relations for four months. He will devote his time largely to working up data on fire protection expenditures under the Clarke-McNary Law.

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With fifty thousand or more records to put through the tabulating machines, George Stewart of the Intermountain Forest and Range Experiment Station is in the Washington office on a detail of several weeks. This is the largest number of records that the Section of Measurements has yet experienced in any one individual study.

HELEN E. STOCKBRIDGE

By E. N. Munns, Washington

"Miss Stockbridge died today at one o'clock."

This news passed rapidly throughout the Atlantic Building on Tuesday, December 20. It was hardly believable. Only a week before Miss Stockbridge was with us. Now she was gone. Only a week before she had with her customary diligence and exceptional efficiency found for us a reference that was only hazily remembered. Suddenly we learned that she was not to come back to us. Her work is done.

Miss Stockbridge was widely known to the members of the Service. Many of these she had met personally, for hardly a visitor ever came to Washington from the field who did not visit our library - her library. Indeed, it was her library. It had been her charge for 31 years, ever since she entered the Service. She had seen it grow; she had helped select the books and periodicals on its shelves; she had ordered publications from publishers here and abroad; she had catalogued and indexed its volumes. The completeness, size, and worth of the collection attest to her desire and zeal to make the library of the Forest Service one of the outstanding forestry libraries of the country.

As the years have passed, we have had the opportunity to appreciate Miss Stockbridge and her value to the organization perhaps as few others have. Entering the Service at a time when forestry was a crusade and when idealism permeated the organization, she became one of its most loyal adherents and backers. She closely followed in print the many bitter battles in which the Service had engaged and was incensed at the remarks made by its opponents. It was only this fall that she remarked that forestry of today was so unlike that of twenty years ago. It seemed quieter, more sure of itself, more stable. She had welcomed the Copeland Report and the additional heavy burden of work it placed upon her because, as she said, "it reminded her of old times when everybody wanted something at once."

It is saying very little to say that we shall miss Miss Stockbridge in the Forest

Service. Never have we had a more loyal, earnest, hardworking fellow employee - always on the job early and late, always pleasant under the most difficult conditions, always willing to help out. Miss Stockbridge has left a mark that few, if any, can equal. Never was a request too ridiculous or vague, never a thought so poorly expressed, but that she would endeavor to satisfy the seeker after information. A request for any possible help on a particular subject would not uncommonly result in a call to look over not merely a few, but a number of publications that had been carefully and thoughtfully chosen. It was a frequent yet always refreshing experience to receive from Miss Stockbridge assistance far beyond that which was expected. This desire to help, this ambition to run down every clue, this endeavor to satisfy, yes, more than satisfy every request, was her great contribution to the Service, far greater than the important daily tasks which she so competently performed.

Miss Stockbridge has left many constructive things to her credit. She it was who kept and maintained the Current List of Literature Indexed in the Library. Started soon after she came to the Service, it has been issued currently save for one small break when it seemed that all doors to its publication were closed. She was largely responsible for Library Bulletin 76 of the Department of Agriculture, "Catalogue of publications relating to forestry in the library of the United States Department of Agriculture" issued in 1912, and had a very large part in the preparation of the Bibliography of North American Forestry which has not yet been printed. Many an author, research worker, and forest school student has received advice and assistance from her in the selection of material or in preparing or checking a bibliography or list of references. She has prepared dozens of bibliographies on selected subjects, some of which have appeared in print and many others in mimeographed form. She was the author of several papers on forestry literature.

Early in the history of the Society of American Foresters, Miss Stockbridge performed the duties of Secretary and Treasurer of the Society for many years, helped to edit, issue, and distribute "The Proceedings," the "Forestry Quarterly," and the "Journal of Forestry." The forestry profession and the Service owe her much.

And now she is gone, suddenly, and almost without time to say goodby.

Helen E. Stockbridge, the oldest member in point of service in the Branch of Research, was born in Gardiner, Maine, on November 11, 1871. She entered the Forest Service on June 14, 1901, as Library Assistant. On July 1, 1904, she was made Librarian of the Forest Service, the position which she held at the time of her death. Her immediate family included one sister and two brothers.

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Vol. XVII No. 2 Washington, D. C. January 16, 1933

WOODED PASTURE VERSUS PASTURED WOODS

By Bernard Frank, Lake States For. Exp. Sta.

What is the acreage of farm woodland devoted primarily to pasture and where is it located? It would seem relatively easy to determine this by direct reference to the Census of Agriculture. But the answer is hardly so simple.

At the present time the Census divides farm woodland into pastured and non-pastured woods. It also shows the volume and value of forest products removed from the farm to home consumption or sale but gives no indication, except as one may approximately infer it, of the extent to which the pastured woods contributes to the total value of the products cut. Nor is there any way of determining whether pasturage is the major or minor use. As a result, it is difficult either for research workers or extension specialists to know where to concentrate their efforts in seeking to improve the methods of handling the farm woodland. Obviously where pasturage is the chief or only use it would be a waste of time to talk forestry to the farmer; where it is only a minor use, however, the pastured woodland takes on a new significance for forestry. It is therefore proposed that in the future the Census provide for the separation of the pastured portion of the farm woods into (1) Wooded Pasture, and (2) Pastured Woodland. This could be done simply by having the Census taker inquire of each farmer whether pasturage was the main use or subordinate to some other utilization such as timber. A far better index of the income productivity of all portions of the farm woods would thus be obtainable.

The need for such a classification even from the silvicultural standpoint is quite clear. The all-embracing Census term "Woodland Pasture" fails to bring out the striking differences between the tree-covered pasture, in which the trees are generally scattered, the surface grass covered and reproduction scant or entirely lacking, and the pastured woods, which, with a distinct forest floor, a moderately dense stand and appreciable reproduction, has more the characteristics of the true forest type.

In the Lake States, to mention but one region, the need for a recognition of these differences is particulatly important. The so-called woodland pasture of the northern portions of that region is for the most part well forested land from which a good deal of income is derived from forest products. In the southern portions, on the other hand, the farm woods generally has a quite different silvicultural and economic significance. Forest products from northeastern Minnesota, for instance, formed one-fifth of the total value of all crops in 1929 whereas in the rest of the State they comprised only 2 per cent.

Such a classification should clear up a good deal regarding the feasibility of farm forestry in the various parts of the country. It would also provide an additional criterion of the practicability of extending credit to the farmer as an encouragement to the practice of forestry.

PHOTO FORESTRY

By Howard R. Flint, R. 1.

I was interested in a note by Kircher, "To Illustrate Forest Management" in the September 12 issue of the Bulletin. I agree with Kircher about the value of photos as a record in forest management and in many other forest activities. In R-1 the classic example is Forest Inspector White's Lick Creek sale area, Bitterroot Forest, photographed before cutting more than 20 years ago; photographed again recently. A comparison of the pictures is really more instructive than a visit to the area would be, because one sees past and present togther.

R-1 is now well launched on a photo program. We have used many photos with great success in fire trespass cases involving damage to forest growth. There are many views of Region One forests from "camera points," with a record of place and time of exposure.

More recently we launched a vast, new program of forest photography. The "camera points" are not so definite, being most anywhere about two miles up in the blue. There is, however, nothing indefinite about the location of the pictures with reference to the area they represent, they can easily be pinned down exactly. These pictures are vertical aerial photos made for mapping purposes. They are taken straight downward. There are now in the files almost 11,000 of them covering some 3700 square miles on a scale of 3 to 8 inches to the mile. Each one, except a few around the edges, generously overlaps four others. They are rapidly being compiled into the best drainage, culture and cover maps we have ever had.

After compilation into maps at least one set of prints, carefully oriented with reference to the ground and accurately indexed on the map, will be permently filed and can be referred to to-morrow, next year, a century from now. As a safeguard against accident, duplicates may be made. The negatives, thousands of square feet of them, mostly in strips 75 feet long will be separately filed, sealed in tin cans, preferably placed in a fireproof vault.

Photo records of forestry are here to stay. They will greatly extend their field of usefulness. A forest of 250,000 acres gross area, can be completely photographed in 6 or 7 sunny days.

DROUGHTS AND THEIR EFFECTS

(From an article by Ralph H. Hosmer in the Service Letter of the
Pennsylvania Department of Forests and Waters)

The lack of precipitation, in some sections of Pennsylvania in 1930, was the outstanding feature of the year. The unprecedented drought that affected large areas of the State developed chiefly during the period from July to December inclusive.

At the end of June there was an accumulated deficiency in precipitation of five inches over about one-fourth the State. ***

During the following four months that ended with October and included a large part of the growing period, the deficiencies increased in the dry regions to fifteen inches, and to ten inches over fully three-fourths of the State. The average deficiency for Pennsylvania during those four months was over eight inches, or less than one-half the normal amount. ***

The effects of the 1930 drought in Pennsylvania may be best portrayed by setting forth some of the outstanding hardships that were experienced. Water supplies from small streams and ponds, shallow wells and thousands of springs became exhausted. Shortages in domestic supplies interfered with both economic and social activities.

Conditions became so acute in some localities that in four of the southwestern counties it was necessary to use mine water. Resort was made to water that had collected in abandoned quarries in Lancaster County. In the south central section of the State, water supplies failed in August, and at Gettysburg waste condensor water was pumped into the distribution system at a temperature of 125 degrees.

Restrictions were placed on the use of water at Wilkes-Barre, where four-fifths of the supply in the three billion-gallon Pikes Creek reservoir became exhausted. National Guard trucks were used to haul water from Frackville, Schuylkill County, to the Fountain Hill Hospital, and in many other localities auxiliary or emergency supplies became alternative for that element indispensable to life.

Streams that can be used safely for the disposal of sewage and trades waste when the flows are normal may become a menace when the streams are low, due to the insufficient amount of water to dilute and carry away the refuse.

Water supplies from streams at low stages and from other sources when ground water levels are low, may be detrimental to health. The potential danger of an outbreak of disease under such conditions was imminent in 1930. The Pennsylvania Department of Health sent traveling laboratories into 40 of the 67 counties in the State and over 5,000 domestic water supplies were investigated. By this precautionary measure impure supplies were readily detected and sickness from the use of contaminated water was negligible.

Industries were compelled to suspend operations at times, due to inadequate supplies for process purposes, causing intangible losses during a year of marked business depression. The shortages in many towns and cities, and at numerous industrial plants, were less keenly felt than had business conditions been normal.

Agricultural crops were a total loss in some sections and only small parts of anticipated revenues were realized from others. In 1930 although the total acreage planted was greater than in 1929, lower yields, except for winter grains, and lower prices for all crops resulted in a value for the major field and fruit harvest of almost ten per cent less than for the previous year.

Navigation was hampered and had it not been for the gradual release of 23,600,000,000 gallons of impounded water, by the West Penn Power Company from their Lake Lynn Reservoir, it would have been suspended on the lower reaches of the Monongahela River from early in July.

Water power outputs were below any ever expected productions. Electricity generated by public utility plants in Pennsylvania during 1928, a very wet year, was practically the same as in 1930, while little more than two-thirds of that generated by water power in 1928 was furnished by hydro-electric plants in 1930. Fortunately, nearly all water power plants generating electricity for public use are interconnected in large systems that include steam plants which eliminates any interruption in service.

Forests suffered great losses through lack in tree growth, dying of trees, and destruction by an unusual number of fires. Measurements and observations by the Pennsylvania Department of Forests and Waters on 1,600,000 acres of State Forest lands showed that the tree growth in 1930 was 25 per cent less than in 1929. On the basis of an average annual growth of 25 cubic feet per acre, the 13,206,000 acres of forest land in the State suffered a loss of 82,538,000 cubic feet in 1930.

The ground was so dry and the material on the forest floor so inflammable that the smallest spark would cause a fire that would burn down into the soil as far as there was any vegetable matter to burn. For this reason the forest fires were difficult to extinguish and required constant watching. During 1930, 6,700 forest fires were reported which was 3,000 more than for any previous year. The hazard became so great that it was necessary for the Commonwealth to expend almost a half million dollars for fire extinction.

When streams recede to low flows, the distribution program of the Pennsylvania Fish Commission is handicapped and their efforts of previous years are subjected to destruction.

The extreme low stages in meadow and mountain streams cause conditions particularly detrimental to trout stocking. Not only does the shrinkage of streams strike a hard blow to aquatic plant life essential in the growth of minute organism, but it exposes trout, in particular, to their natural enemies, such as mink, raccoon, herons, kingfishers and other predators.

Fish life is affected in two ways by drought. First, the various species are forced into narrower feeding areas, where the larger game fish, cannibals by nature, turn upon their kind when other available forage becomes exhausted. The second injurious factor is destruction of natural food, such as the minnow, crawfish, shrimp, caddis fly, and other forms of aquatic life native to our inland waters.

A stream's ability to maintain fish life is gaged by the quantity of water it carries when at its lowest flow. The survey of Pennsylvania streams recently completed by the Fish Commission will serve as a chart in their stocking policies and distribution programs and provide an effective weapon against the destruction of fish by droughts.

So far as wild life is concerned, drought must be considered from two angles. In one case it is decidedly beneficial and provides a dry nesting season for small game which cannot thrive during wet weather. However, if the drought extends too long after the nesting period the natural food of game may not develop or it may be of an inferior quality

The old adage, "There is no great loss without some small gain," seems substantiated by a statement of the Pennsylvania Game Commission a few weeks ago. They stated that, so far as their surveys tend to show during the past few years, game has not suffered to any great extent as a result of the extensive dry weather and that they felt safe in saying that despite the recent droughts, this year will mark one of the greatest hunting seasons for small game. ***

Water is the country's greatest natural resource. It limits the development and utilization of other natural resources. It is a factor in the progressive march of time and indispensable to our every day economic and social life. ***

Shortage in water supplies set forth the needs of more adequate facilities for storage of both surface and ground waters. More care should be taken in planning so that developments will be kept within the limits of available supplies.

IT'S A FACT

By A. L. MacKinney, Appalachian For. Exp. Sta.

Mosquitoes in December - 100,000 per acre; count 'em yourself. Picture a man bundled in "sheep's clothing", face hidden in colored 'kerchiefs except for peep holes and a small area about the nasal protuberance, shiveringly holding an Abney to his eye. Then add 142 mosquitoes, ranging in size from 0.06" to 0.74" long, flying about the small unprotected area, and consider the beauty of the scene. Now expand the field of vision to include two other men and a pole stand of longleaf pine, enliven with a baker's dozen of lumber camp expressions of opprobrium (preferably round or oblong) and the scene is complete.

But this story is really about a mosquito who volplaned to a one point landing on a nose. With much buzzing and purring this mosquito settled, punctured, and began to feed. Gradually the silver gray body changed to rose and then to carmine, and his d.b.h. began to enlarge. Two interested spectators stood by and one hardy forester suffered in the interests of science. The torso expanded gradually, resembling a minature rose red zeppelin. Great shades of Paul Bunyan, would he never be sated: Then - blood flew, spurting in all directions.

The poor mosquito knew not when to stop. The meal was too easy and the food too good. Poor fellow, he busted.

IS FORM 35 ESSENTIAL?

By W. C. Ellis, Apache

A few years ago on the Fishlake Forest in Utah, we took a great deal of interest in the Form 35 "Rangers Allotment and Expenditure Record." The Forms were prepared in the Supervisor's Office, sent to the Rangers between the 1st and 10th of July, and recalled for checking on October 1 and April 1. Very few corrections were necessary in the Rangers' figures and our Clerical Plan estimated one hour per Ranger District for each reconciliation. This is not much time, but a great number of pencilled notes or letters had been exchanged and considerable Ranger time had been used to keep the records so that they could be reconciled so easily, which would appear to be the correct method if the Form is used.

Then along about June 20 each year we would get telephone calls or letters from the Rangers asking for more money. From Jim Jensen of Fillmore, Utah, we would hear "I've overdrawn my travel allotment. This is a deplorable situation but nevertheless it's true." With every request there was a good reason and the Supervisor would dig around and get the additional money which the boys needed. Then we could realize that the Rangers had kept detailed records during the past eleven months so that they would know enough to ask for more money.

I question very much whether Bert Robins and Jim Jensen, who have browsed around on the Fishlake since the period of organization, ever did get so very much excited over the allotment letter anyway. Undoubtedly these two boys would have paddled right along with their work even if the Supervisor hadn't raised the extra money.

On the Apache Forest we get along without the Form 35. All allotments and expenditures are controlled from the Supervisor's Office. This is in reality what we did on the Fishlake except we had the Rangers keep their Forms 35 to balance with us. The Apache Rangers mail their certified Forms 877 to the Supervisor's Office where all vouchers are prepared. All bid purchases are made in the Supervisor's Office. It is realized, of course, that circumstances are different in the different localities, but the thing that particularly interests me is elimination of Ranger clerical work. I believe this feature is worth the consideration of Forest Supervisors.

The idea of central control of allotments and expenditures was first advanced to me by Assistant Regional Forester, M. L. Merritt of Juneau, Alaska, but having been trained in the other method, I did not become interested until I arrived on the Apache Forest where the method is being used.

We know the personnel record of the Fishlake Forest with its reputation for training Administrative Men, and I do not wish to be interpreted as making a comparison of the two administrations. I am interested in clerical administration and believe that the central control of allotments and expenditures is worth administrative consideration as compared to the method of having the Rangers keep a record. If it should be desired that Rangers be informed of the balances to be expended on projects on the respective districts a quarterly report will suffice. I offer my opinion as one who thinks he has seen both methods very successfully used.

LITTLE ORPHANT COPELANDER

By Maybell S. Hartley
(With apologies to James Whitcomb Riley)

Little orphant Copelander's come to our house to stay,
To clutter up the landscape and scare the guests away.
'E permeates the air we breath, An hones' injun true
'Es stoppin' up the chimley so Santa can't git through.
An all o'us chilluns, when the supper things is done.
We musn't ask no questions nor holler loud, nor run.
And you better mind your business, An look what you're about
Or Copelander 'll git you
Ef you
Don't
Watch Out.

YE EDITOR DISCOVERS

The House of Representatives has passed the Agricultural appropriation bill without making any additional decreases over those made by the Bureau of the Budget.

The 8-1/3 per cent salary cut is continued by general legislation included in the bill for the Treasury and Post Office Departments and an increase of 1-2/3 per cent in pay cuts has been recommended by the Senate Economy Committee, which if passed would bring the total slash for the next fiscal year up to a flat 10 per cent.

Representative Burton L. French of Idaho has introduced a bill exempting from the pay cut provisions of the economy act a person whose employment is intermittent and seasonal involving an aggregate of but a few months during the year. If enacted, this bill would relieve all short term workers in the Forest Service from the double cut which they suffered during the past season because of the Comptroller's decision that the economy act must be applied to salaries in effect on June 30 regardless of the reduction in short term rates which had been made on our own initiative in March. Other members of Congress are also interested in legislation which will exempt people earning only a few hundred dollars a year from the pay cut provisions of the economy acts for the fiscal years 1933 and 1934. There is, however, much opposition to any such modification of the pay cut provisions of the original economy act.

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The war memorial committee of the Department of Agriculture has recently published a 112-page book about the War Memorial that was dedicated to the men of the Department who died in the World War. This book, which is attractively got up, contains the addresses delivered at the dedication ceremonies last spring and biographical sketches of the 69 Department workers who lost their lives in the great conflict. The memorial is located in the administration building of the Department at Washington, D. C.

The memorial was made possible through the generous offerings of Department employees. It is a sculptored plaque of white Carrara marble six feet wide and ten feet high, the work of the well-known sculptor, John Flanagan. Life-sized figures of a soldier and a sailor stand guard on either side of the roster of hero dead. It is said to be one of the finest of its kind in the United States.

Nearly 3,000 members of the Department of Agriculture joined the colors during the great war. From the Forest Service was gathered the largest number of Department employees in one organization, the 10th and 20th Engineers (Forestry). This service gave 479 men.

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The American Forestry Association recently conducted among the boys and girls of the fifth and sixth grades of the schools of the District of Columbia and Virginia and Maryland suburban towns the third of its annual forestry notebook contests. More than one thousand notebooks were submitted and were on display for a week at the New National Museum, Washington, D. C.

The winners for individual notebooks were a ten year old sixth grade girl and an eleven year old sixth grade boy, to whom were awarded the bronze medals of the American Forestry Association. The notebooks submitted by these two youngsters would do credit to an adult dendrologist or forester.

Prizes were also awarded for the best classroom notebook and for the most outstanding school exhibit of individual notebooks. These awards, however, are not for permanent possession but are to be held by the winners until won by another class and school in another annual contest. In the school submitting the outstanding exhibits this year, there are 164 pupils, 112 of whom submitted notebooks worthy of meritorious mention.

Another contest of this kind was conducted by the American Forestry Association in Massachusetts last fall, under the auspices of the State Federation of Women's Clubs. Contests in competitive essay writing on forestry subjects and in tree planting have been conducted in 25 other States.

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"Uncle Sam's Forest Rangers," the radio drama depicting the work of the Forest Service, has completed a very successful year on the air. Under arrangements with the National Broadcasting Company, this program is to be continued in 1933. It will be presented each Thursday at twelve noon Central time over stations of the NBC's networks east of the Rockies and on Mondays at 12:45 p.m., Pacific time over stations in the NBC's western division.

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According to an article in the Popular Mechanics magazine for December, 1932, (page 937), asbestos shields are being used by fire fighters in Germany to protect them from the intense heat of a big conflagration and enable them to approach nearer the blaze and thus battle it more effectively. One type of screen, the article states, is shaped like a big umbrella and is opened and closed like one. In addition, there are rectangular folding screens containing openings for several hose pipes. From behind such a protection, the pipe men can place the water where it will do the most good.

MORE ABOUT NAMES

By Stanley Wilson, R. 3.

Munn's article in the November 21 and December 5 bulletin is generally excellent. But in picking distinctive names let's not make them too long. I can't agree that "Dry Wolf Combination Ranger District" is a "real name" if the poor ranger in charge has to write it very often - and I am not an efficiency expert either.

Some of us are apparently ignorant in geography also - perhaps I'm the guilty one - at any rate I can't place the bulk of the Rio Grande in Region 7. The Service Directory doesn't show Texas in Region 7 and even if such is the case both sides of the river are in New Mexico.

RELATIVE HUMIDITY

So far, we have largely informed ourselves on relative atmospheric humidity by the use of sling psychrometers. This limits our information on relative humidity to a few periods each day and gives us nothing on what the relative humidity may be during the night. We have obtained some rather startling figures by the use of the self-recording hydrothermograph. Generally, relative humidity goes down during the day and up at night and most of us have believed that practically sometime every night the relative humidity gets out of the lows. Fires seldom crown all night.

With a hydrothermograph on War Eagle on the Idaho the past summer, it was found that immediately preceding the California Creek fire, for a period of 120 consecutive hours the relative humidity was below 21 per cent. This is rather startling. In other words, with the base of 21 per cent we use at Boise for the Boise Forest, the War Eagle record was below both night and day for five days and nights consecutively.

Relative humidity may get low during the day. If it goes up considerably during the night, certainly that will help. The duff and other fuel will have their moisture content raised in proportion as the relative humidity goes up during the night and if the humidity goes up considerably during the night it will take some time the next day to eliminate this extra moisture content of fuel resulting from the higher humidity the preceding night. On the other hand, with low humidity both day and night, explosive conditions can be expected to obtain perhaps in a few days and such conditions did obtain near War Eagle, as shown by the quick run of the fire occurring there in August, 1932.

Apparently we need a lot more self-recording hydrothermographs. Instead of being guided entirely by the relative humidity at noon or at 4 o'clock or at 6 o'clock, it would doubtless be a lot safer if we could record relative humidity for each hour in the 24 and establish our base and make our predictions on such a record.--C.N.W. in R-4 VBulletin.

PLAGIARIZING AMOS 'N'ANDY

Amos and Andy fans will recall Andy's habit of indulging in large figures: "One million, two million, eight million, etc." It almost always got a laugh. But the Copelanders make Andy look like a piker. A stray sheet of scratch paper that escaped one of them is filled with calculations such as:

100.000	20.000.000	100.000	10.000.000
20M	100	20.000	200/2.000.000.000.000
2.000.000 M	2.000.000.000	2.000.000.000	

Andy might as well figure that this time-tried laugh provoker is a washout; at least no Copelander will ever again see anything humorous in it. - L. F. Kneipp

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XVII No. 3 Washington, D. C. January 30, 1933

"DOLLAR SALERS" OF THE MEDICINE BOW

By Huber C. Hilton, Medicine Bow

Fleets of trailers, sedans, trucks and, rarely, a team and wagon have contributed in considerable measure to the cleanup of sale areas along the Rocky Mountain Highway, through the removal of dead and down material under "dollar" sales. If Dr. A. G. Crane, President of the University of Wyoming, was not the first one to originate the idea of going to the mountains to cut wood for the sake of exercise and indirectly to secure wood for his fireplace, he was one of the first. He and many others secured timber-sale permits at a dollar (4 cords @ 25¢) for the Pole Mountain District, and, with cross-cut saw and axe, worked up stumps and fallen ponderosa pine timber into lengths which could be stacked in the rear of their sedans and hauled in over the Lincoln Highway to Laramie. Even before the depression affected this region, the sale of cordwood from the Pole Mountain region assumed such a large volume that sales had finally to be refused because of the need of conserving fuel wood, particularly in the accessible places, for the use of the annual encampments of the Regular Army on the Pole Mountain District and for the camp of the Wyoming National Guard. Use was then restricted to the granting of free use permits to ranchers in the region. Peculiarly, even with the rapid development of the cordwood timber sale permit business, the applicants continued largely to be professors or instructors of the University of Wyoming and business and professional people from Laramie.

The cordwood business has now been shifted from the Pole Mountain to the Fox Park District, and, although Laramie residents must travel 50 miles to the timber, the business is now much heavier than before. In fact, so many people applied for permits that arrangements had to be made to detail a ranger to the Fox Park Ranger Station office for each Saturday forenoon. Permits were issued only at that time unless the applicant happened to catch the ranger at home other times. Permittees are required to secure their wood from a designated area along the highway and have cleaned up a large amount of material left in the tops of tie and prop trees - material partially rotten and unsuitable either for saw logs, ties, or mine props - as well as dead standing timber. Old stumps have also been removed, as well as large amounts of chips left from the hewing operations. Travel has been so heavy that complaint has been made that the use of trailers is destroying the gravel surfaces of the highway. The trailers business is one that has not suffered locally from the depression and it is now almost as common for one to have a trailer as an automobile. With many men out of work, families have combined recreation with work and made many trips to the mountains with car and trailer to secure their winter's supply of wood. During the past season a total of 183 permits were active on the Fox Park District, such permits being issued for the season. Some permits were issued to residents of Cheyenne and a few to residents of western Nebraska.

PLACE NAMES IN A SMALL STATE

By E. E. Carter, Washington

To Rhode Island goes the honor of being the first State to have an Official Gazetteer of geographic names, compiled in cooperation by a State Geographic Board and the U. S. Geographic Board. It was issued on January 9. Those who think that a small State which lacks real mountains can have small need for official place names forget that Rhode Island has shoreline, and a broken one. Numerous coves, guts, points, necks, islands, rocks, ledges, and shoals call for authoritative naming, as well as the usual streams, hills, swamps, etc.

Such a gazetteer inevitably reflects the history of the country. Rhode Island was forested originally. It still has over 40 per cent of its land area forested. Roger Williams found trees there, mostly hardwoods. So we have: Ash Swamp and Ash Swamp Brook; Birch Hill; Buckeye Brook (actually named for a kind of herring locally called "buckeye"); Buttonwood Point; Cedar Brook, two Cedar Islands, two Cedar Points, a Cedar Island Pond, and an Indian Cedar Swamp; Cherry Brook, Cherry Neck, and Cherry Tree Hill; Hemlock Brook and Hemlock Point; Juniper Hill and Juniper Point; Maple Root Pond and Mapleville; Oak Hill and Oak Swamp; no less than five Pine Hills; Poplar Point; two Sassafras Points and a Sassafras Island; and a Spruce Brook. Elm Tree Point has been discarded. The startling thing is the absence of beech and chestnut from the list. The blight has exterminated the chestnut, but it was there when the names were being given. Possibly it was too abundant to be used as a distinctive name but that implies degeneration to the present generation of name-givers.

Did you notice the use of "brook" and "pond" in that list? "Creek" and "lake" seem to be almost unknown terms in the State. There are lakes, but they are scarce. One is "a small salt inlet." Another is Wallum Lake, extending into Massachusetts, but its original designation is plainly indicated by the official approval of Wallum Pond Hill just to the east. Size is not the controlling factor, for Hundred Acre Pond refuses the dignity which some ascribe to a lake.

The Librarian of the Rhode Island Historical Society states that in early Rhode Island the use of "lake" was considered an affectation, and its use branded the person as "high hat" hence "pond" was invariably used. The word "pond" was applied not only to bodies of fresh water but to those of salt tidewater as well if the latter had very narrow outlets. The word "creek" also carried with it certain definite ideas, particularly that of a small, narrow, sluggish stream of salt water, and usually that of crookedness.

The early settlers ate lots of fish, mostly from the salt water. There are the inevitable Trout Brook and Trout Pond, to be sure, but only one of each. To show what made deep impressions, there are: Alewife Brook; Bass Rock (four of them); Dolphin Rock; Herring Pond and its Brook; Lamprey Rock; Mackerel Cove; Perch Cove; Pickerel Point; Smelt Brook Cove; Sucker Brook (twice); and Squid Ledge. Shellfish did not appeal strongly. The lobster, the clam and the oyster are not represented. Crab Pond, Quahaug Point, Quahaug Rock, and Musselbed Shoal answer to the roll call for the crustaceans.

Wild animals also peer out of the past. Of course there is a Bear Hill, also a Point, Rock, Brook, and three Swamps, besides a Bears Den and a Bear Tree Brook. There are two

Wolf Hills. Also a Skunk Hill. There is a Buck Hill and a Bucks Horn Brook, but Deer, Doe, and Fawn are absent. Catamint Brook and Catamint Hill indicate that the cougar was once present, where now the population is the densest of any State, and Cat Hill, Cat Rocks and a rejected Cat Island presumably mean that bob cats squalled and were hunted there. There are a Rabbit Island; a Fox Island, Point, two Hills, and a Fox Hill Pond; Mink Brook; Beaver River and Neck and a Beavertail Point; Racoon Hill and Brook; Coon Cove, Hill and Ledge; Badger Mt.; and two Snake Hills (without rattles). Cnce more the influence of salt water shows in Whale Rocks, Seal Island, Seal Ledge and four Seal Rocks. There were no elk in the State, so we are spared a multitude of Elk Creeks, Rivers, Hills, Mountains, Ponds, Lakes etc.

Only one Clear River is listed and no brook or creek of that name. The grist mills and sawmills of the seventeenth century are probably responsible for Mill Cove. two Mill Ponds, Mill Gut, Mill River, Mill Tail Swamp, and one, only one, Mill Creek. The inevitable Dead Man is represented, and the Devil left his marks. Eight features of various kinds are called Round, with Round Top Brook added, and fifteen features are Sand, Sands, Sandy. "An irritating as a grain of sand in the eye." But all residents here had to struggle with that sand, so the names stuck.

The aborigines left their names, as usual, and some of them are sufficiently distinctive to make a typist slow down - Neutaconkanut Hill, Passeonkquis Cove and Quonochontaug Neck, for examples. Usquepaug River sounds as if the Irish dew had been cut a little, but various discarded spellings indicate native origin. Admirable restraint has been shown in the extent to which the word Indian has been used, for there are only a Brook, a Rock, and a Burying Hill, besides the Indian Cedar Swamp previously mentioned and an Indian Head Neck. The Rhode Islanders lived at peace, so there are no Dead Indians.

And social customs of the early days? Rum Pond; Brandy Brook; Rumstick Neck, Ledge, Rock, Point and Shoal; Gin Spring, Rye Point; Wine Brook; and White Wine Brook all smack of former years. So also does Sin and Flesh Brook. Some might put Scotch Pond, Card Ponds, and Poker Hill in this group, or even Despair Island and Mount Misery (altitude 510 feet above sea level). To offset, there are Beverage Brook; Church Point and two Church Coves; a Hope Island and a Mount Hope; Providence River; and even Paradise Rocks and a Paradise Brook. Pork Barrel Island sounds suspiciously political, but may have been given its name from its shape.

One New England tradition, now largely abolished under the name, at least, is commemorated by Poor Farm Brook. The seafaring habits of the early inhabitants stand out in such names as Watch Hill and Skipper Island. The real hardihood of the Rhode Islanders and a striking disregard for potential real-estate booms, however, are shown by the retention of Arctic as the name of a village.

ATTITUDE VS. POLICY

By Glenn E. Mitchell, Siskiyou

I was talking to the Secretary of the Chamber of Commerce of our town the other day about the reserving of surface rights on mining claims and the control of timber cutting. I stated that the Forest Service should control the cutting of timber on such claims, giving the miner, free, all timber necessary for mining developments.

Mr. Secretary stated that this would be unfair to the mining interests. I contended that it would establish a fair and just policy.

His remark was what interested me. "Well, you might administer a regulation to the satisfaction of the public, but the next fellow would not."

I just wonder how big a factor that tendency is in our work. My first thought was that he was slamming me — maybe he was. But how much of our criticism is due to improper administration of regulations and policies.

Policy is a broad term and covers a multitude of subjects. But I have felt for a long time that the proper interpretation of policy is the biggest job a Forest officer has. It is one of the hardest things to put over to a new employee, such as guards and assistant rangers. Many yearlong rangers are weak in this respect because of lack of contact with such problems.

We find many cases where the handling of identical matters differ between Forests. An even wider difference exists between States and Regions. How many times have we noticed the stockmen on a ranger district or Forest uneasy and perturbed because a change in rangers or supervisors was going to be made? Why? Because they did not know how the new man would handle the business in which they were dealing with the Service. This should not be, but how are we going to correlate such things as interpretation of policies?

This is another subject for Keplinger to start on. It may be something like personnel management, difficult to teach with no accepted technique, but if we could develop a system of uniform method and application of interpreting and administering policy, I believe many of our troubles would be eliminated.

NATIONAL FOREST RESERVATION COMMISSION

By John E. Burch, Washington

The report of the Commission, which was submitted to Congress on December 6, reviewed in detail its work during the fiscal year 1932 and also contained a brief survey of the results accomplished during the twenty-one years which have elapsed since the purchase of land for National Forest purposes was initiated by the passage of the Act of March 1, 1911, commonly known as the Weeks Law.

The Commission during these twenty-one years has approved for purchase 4,727,680 acres of land at an average price of $4.49 per acre, or a total cost of $21,203,021.93, and title has been acquired to 4,369,656 acres at an average price of $4.55 per acre, or a total cost of $19,899,792.15. This leaves an area of 358,024 acres approved for purchase but as yet not acquired. The remaining unacquired area involves an obligation of $1,303,229.78 and is being acquired at an average price of $3.34 per acre. Approximately 62 per cent of the area in question is or will be involved in friendly condemnation suits instituted in order to clear title. The United States title attorneys are now engaged in preparing abstracts of title for the remaining 38 per cent of these unacquired lands.

The Commission has established 21 purchase units primarily for the protection of the watersheds of navigable streams, and 20 purchase units primarily to stimulate timber production through the determination and demonstration of the forest practices and principles of silvicultural management best adapted to the regions of which they are parts. However, the watershed units also have high timber productive values, while the timber production units contribute also to streamflow stabilization. As the lands have been acquired they have been protected, improved, developed, and subjected to constructive principles of management and use.

The Commission's program is only half accomplished. The area within the 41 existing purchase units remaining in private ownership is 9,292,303 acres, and it is roughly estimated that of this unacquired land approximately 7,539,900 acres should be acquired by the United States in order that the purposes underlying the establishment of the purchase areas can most effectively be accomplished. Purchase units have been established in the States of Ala., Ark., Fla., Geo., La., Me., Mich., Minn., Miss., N. H., N. C., Okla., Penna., S. C., Tenn., Vt., Va., W. Va., and Wisconsin.

During the fiscal year 1932 the commission held two regular meetings. The total acreage approved for purchase at these two meetings amounted to 83,086 acres at an average price of $2.48 per acre, or a total price of $206,458.45, and title was acquired by the Government to 362,274 acres at an average price of $3.34 per acre and at a total cost of $1,210,232.12. The average price of $2.48 per acre for the lands approved for purchase and $3.34 per acre for the lands actually acquired compares very favorably with the average price of $4.51 per acre for all prior approvals and $4.66 per acre for all lands acquired during the preceding fiscal years and clearly indicated the downward trend of land values throughout the eastern portion of the United States.

The Commission approved the establishment of three new purchase units in Wisconsin; The Chequamegon, embracing 361,497 acres in Ashland and Sawyer Counties; the Mondeaux embracing 171,832 acres in Taylor County; the Oconto embracing 203,418 acres, in Oconto and Langlade Counties. The Commission also approved an addition to the existing Oneida unit in Wisconsin embracing 68,055 acres in Forest and Vilas Counties. The establishment of these units was approved with the understanding that the commsision would not approve the purchase of any lands within their boundaries until such action is warranted by available appropriations and the desirability of lands in comparison with those in other units. The primary reason for the establishment of these units and the enlargement of the Oneida unit in advance of the appropriation of funds for the purchase of lands was for the purpose of defining the ultimate purchase program of the Federal government in the State of Wisconsin so as to aid the State and counties and private parties in formulating a forestry program, and was strongly urged by the boards of county commissioners in the counties in which the units are located and also by private parties and agencies interested in the subject of reforestation.

The Commission also approved the reduction of the Osceola purchase unit in Florida to a gross area of 161,813 acres, as representing the maximum area desirable of Federal acquisition in that particular region; and the transfer of a portion of the Kiamichi unit in Oklahoma embracing 201,480 acres to the Ouachita National Forest for administrative reasons.

The members of the commission are the Secretary of War, President, the Secretary of the Interior, the Secretary of Agriculture, Senator Keys of New Hampshire, Senator George of Georgia, Representative Hawley of Oregon and Representative Doxey of Mississippi.

TECHNOCRACY

By Peter Keplinger, Washington

As you all know by this time, technocracy is the name given to a group of scientists who, unlike most scientists, know how to advertise. The amount of publicity these men are getting is astounding - almost equal to a major war. Any PR man can explain how they have done it.

Actually, the group has given out very little information. They claim to be engaged in an "energy survey" of North America. They have given out a few facts about energy and all of these are in line with statements by other investigators. We already knew that the number of energy machines had increased. For example, a Forest officer instead of using one horse power for transportation now uses seventy. They show that a hundred years ago the energy consumed in industry was about 2,000 kilogram calories per individual and that it is now 150,000 kilogram calories; that most of the world's progress has been made in the last thirty years and that technological unemployment began in a big way in 1919 and has been increasing ever since. If the trend continues it will reach twenty-five million in 1934.

As to their conclusions, accept them or reject them as you like. They are spectacular, probably for a purpose. That and the purpose of their critics need not concern us.

To me the most interesting thing they have advocated, and the one it seems must be their real objective to promote, is the need for real, unhampered scientific research in the social sciences - the same freedom of action, the same financial backing, and the same quality of study and experimentation that has been accorded to the physical sciences. Their contention is that the physical sciences have developed so much the faster that our social organization, developed in a slower moving world, is a hundred years or so behind. This phase of their contention has not been directly attacked by their critics. Perhaps it is not well understood by them. Neither is it my purpose to either criticise or accept. But since forestry is so closely associated with the social life of the people, this is undoubtedly the point at which the controversy most closely contacts our interests. When the proceedings of the recent meeting of the "Association for the Advancement of Science" are published perhaps we will know more about the actual work and aims of technocracy than we can get from the voluminous newspaper discussions.

YE EDITOR DISCOVERS

The statement in the last issue of the Bulletin as to the "uncutness" of Forest Service appropriations as the Agricultural Appropriation Bill emerged from the House was given to us by a rank optimist. He was just $2,199,572 worth wrong. Reductions below the figures submitted by the Bureau of the Budget were as follows:

Sanitation and Fire Prevention	$ 1,096
Planting on National Forests	60,800
Range Investigations	12,102
Forest Economics	5,608
Forest Fire Cooperation	13,720
Acquisition of Lands	106,246
Forest Roads and Trails (F.H.)	2,000,000
	$2,199,572

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A publication full of substantial information is just off the Press - "Job Load Analysis in National Forest Administration." It describes the aims of analysis and the methods by which the study of job loads is to be made and gives adequate samples to indicate how the shaping of results is accomplished.

Any organization that is not averse to taking itself apart, but is really keen to see what, if anything, is wrong, and how it can improve itself, is surely a live one, and a desirable one to be associated with. In this respect the Forest Service must rank up among the best of industrial outfits.

Fifteen hundred copies of this bulletin were printed for the Service, to be used for administrative purposes. A supply was printed for sale and a small supply for other distribution. Five hundred copies have already been sold and a small supply is still available for purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C.

The author is E. W. Loveridge.

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That grass-green and black glass containers or cellophane wrappings will prevent or greatly retard the spoilage of oil-bearing foods has been proved by a recent study conducted by Mayne R. Coe of the Bureau of Chemistry and Soils. These colors, it has been found, are the only two that will shut out the rays of light that permit spoilage, the grass-green by absorbing the photochemically active wave lengths of light and the black by absorbing practically all the rays. Black is considered less practical for commercial purposes because besides being a depressing color it is too concealing, particularly for bottled goods.

In one test two lots of the same meal were stored side by side for about a year, one in a glass bottle exposed to the direct sunlight and the other in a glass bottle wrapped in black paper. The meal in the wrapped bottle was fresh and sweet when removed; that in the unprotected bottle was spoiled, with a very rancid odor.

In another test, a set of vials, one containing lard, one butter, and one salad oil, was placed in each of 10 compartments, each compartment was covered with glass of a different shade, and the whole frame was exposed to sunlight. At the end of the experiment the material kept under the grass-green glass was still sweet, while that kept under the glass of any other shade of green, as well as of the different shades of blue, purple, yellow, orange, and red were distinctly rancid. The same results were obtained when oil-bearing foods were wrapped in cellophane of varying hues.

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The story of Episode No. 48 of "Uncle Sam's Forest Rangers," which described the adventures of "Ranger Jim" and "Jerry" when they made a snowshoe trip to read snow scales. broadcast in the National Farm and Home Hour program on January 20, was written originally by Ranger Paul Gilbert of the San Isabel Forest. This is the first episode prepared by a ranger - and yet who knows the game as well as the ranger? By the way, Paul Gilbert has another one in the hopper which will emerge on the ether on January 26. It deals with ranger cooperation in Red Cross Relief work. It is even amazing to ourselves and must be very enlightening to the public to note the great range of activities performed by the Forest Rangers.

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Approval has been given by the Forester's office to the working plan prepared by the California Forest Experiment Station for the study of erosion and streamflow in the chaparral type. The investigation proposes this year to initiate work on a series of three small watersheds in the lower chaparral type of the Angeles Forest. The area of each of these watersheds is about 60 acres. When the work has been completed on these, another series will be started at an elevation of about 5,000 feet in the higher type of oak brush where it approaches a woodland type. These studies of the influence of chaparral cover on stream conditions is the beginning of a rather comprehensive study which is planned for southern California. Work on the construction of dams is planned for the immediate future.

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The Morris Foundation that has recently affiliated the Morris Arboretum at Chestnut Hill, Philadelphia, with the University of Pennsylvania, has also provided funds for a number of graduate fellowships for students in botany working for higher degrees. A stipend of $1,250 accompanies each appointment. Since appointments may take effect with the middle of February, applications for consideration should be sent at an early date to the Director of the Morris Arboretum, at the Department of Botany, University of Pennsylvania.

At the request of radio fans, the time of "Uncle Sam's Forest Rangers" broadcast in the West has been moved up to 12:35 - 12:50 P. M. every Monday. Stations carrying the program are: KGO, San Francisco and Oakland; KHQ, Spokane; KOMO, Seattle; KGW, Portland; KFI, Los Angeles; KFSD, San Diego; KTAR, Phoenix; KDYL, Salt Lake; KTIR, Butte; KTHL, Billings.

RIBBONS - type - Economical (Non-inspirational)

By Margaret Hayden, R. 9

In the pigtail days we carefully pressed and preserved our hair ribbons, and it has been with a sense of somehow needless waste that I have pitched many an unwornout typewriter ribbon into the wastebasket, because it has all too soon dried out in our dry superheated atmospheres, and could no longer produce a smart, tailored appearing page, even by a heavy touch, which some of us typists lack, and which argues for weariness after a day of clicking.

Not content with giving them the Ben Hur treatment - turning the other side, I have wrapped them in dampness to renew their vigor and insure them a longer life and a brighter one. This didn't seem much worth telling about, but the following does:

After removing the ribbon from the typewriter, pour in two teaspoonfuls of denatured alcohol. Let it soak in a few minutes, and then drop a few drops of typewriter oil onto the ribbon and around the spool. Wrap in tinfoil or waxed paper and let rest in the original tin box for several days. The alcohol renders soluble the dried fibers of the ribbon. The oil retains the moisture.

Typing seven hours a day requires just about a ribbon a week. At ___22¢__ per ribbon, this amounts for one typist to __$11.44__a year, and doubling the life of the ribbon saves that much per year. Multiplied by the number of Government typists, the savings in dollars and cents is left to statisticians and economists to figure, and the up and up page is good for the eyes and the artistic senses (when any).

ROTATION GRAZING - WHO ORIGINATED IT?

In an 1834 issue of "British Husbandry" the following account is given:

"As to the stocking of enclosures it is the opinion of the most intelligent grazers that the grass land should be divided into four enclosures and grazed as follows:

No. 1 No stock.

No. 2 For the fattening beasts until moved to No. 1.

No. 3 For second best cattle until moved to No. 2.

No. 4 For store cattle and sheep until moved to No. 3. At the end of each fortnight they are moved on to rested enclosures."

By dividing each pasture into two subunits the plan of rotation allowed each a rest of two weeks between each grazing period of one week. - R. R. Hill.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV11 No. 4 Washington, D. C. February 13, 1933

"LET'S LOOK IN THE RECORD"

By Robert L. Campbell, Deschutes.

What is being accomplished by keeping in the Supervisor's office a record of the cost of each individual improvement project? Are these records essential to the economic construction of subsequent improvements? Does the Supervisor ever use them for this purpose? Can he guarantee their accuracy? Just how much value do they actually have while projects are being built as a means of promoting efficient work? If the original estimate is made at random, what is adduced by comparing with it fine-spun detailed costs? Is it possible for an activity man in charge of a construction program, who is in constant touch with the work and with the total amount remaining in his allotment, to get as much done as though he occupied his time with project costs? From whence comes the inquiry as to whether the Spring Butte cabin built in 1919 costs more than the Indian Butte cabin built in 1931? The Forester does not want to know. Form 446 is merely a summary. The Regional Forester never asks.

There are 205 truck trails on the Deschutes Forest which look more or less alike. The grader of the construction crew passes from one to the other without ceremony. Only the bookkeeper is concerned. This system of 205 truck trails is valued at about $500,000. We have gone still further and at different times variously classified the cost of each individual project into labor, subsistence supplies, general supplies, material used on the job, hauling, travel, miscellaneous supplies, equipment, and what not. Who wants to know what each unit has cost in detail and for what purpose are these figures used? There are on the Deschutes about 75 standard toilets built according to identical specifications, with an individual cost record for each. Is this necessary? Are we keeping the record for the sake of the record?

These observations are prompted by other considerations to which they are quite closely related. Our September Bend hardware bill for small non-bid items (105 separate purchases) required 35 minutes merely to write complete entries in the Accounts book and distribute over 37 projects. A check shows that more than ten hours were spent in preparing this voucher at an expense of about $8. A payroll containing 36 names cost $5 by the time it was ready for mailing. If a separate record is kept for each construction project we must prepare 629 Forms 21-j and depreciate them annually. We must depreciate 18 pieces of large equipment over 61 projects. This requires some 75 vehicle reports and 18 memo sheets on which to assemble depreciation data. Yards of adding machine tape and hundreds of entries thereon are required to balance the books because of the multiplicity of project entries.

I suggest that the present practice of keeping individual project costs be discontinued and that a cost summary by classes be substituted. In other words, the Forest would become the cost unit for each class of improvement and the number of project sheets in the Accounts book would be reduced to approximately the sum of the classes shown on Pages 56-57 of the Cost Keeping Manual. The Forest detection system, for instance, might include 12 Lookout houses at a cost of $7,000; the telephone system 500 miles of line at a cost of $2500, etc. There might be 50 standard toilets on campgrounds at a cost of $1500.

It may be objected that worth-while data needed for future construction would thus be lost. I reply that our present detailed system of individual cost is not an assemblage of engineering cost data but really a mathematical record of money spent and has never been used for the former purpose. Furthermore, unless a man has been actually on the ground, the record that nine miles of trail up Canyon Creek cost $1800 means nothing from an engineering standpoint. If it is desired to make cost studies for the promotion of efficient supervision, costs of certain selected projects could be recorded in considerable detail as an Administrative Study and considered as expansion accounts in the Account book.

If a complete project were disposed of on Form 858 the average cost of improvements in the class concerned could be used in depreciation records. Trail and telephone mileage would be handled in the same way. After all, of what importance is it to know that a pile of lumber worth perhaps $15, salvaged from a barn after remaining around a Guard Station for a season, is finally built into a chicken house; and how accurate is the estimate of $15; and how much would be the depreciation over a period of 20 years if the chicken house had a capcacity of 50 hens and the average life of the hen was 3½ years? This is, of course, an impossible case. It is not intended as ridicule but to emphasize the point, if we are actually going to keep detailed project costs and provide for all contingencies, instructions must be set up which will accumulate until the balance between doing and recording is entirely out of line. The proposed plan is particularly applicable to trails, telephone lines, and many road systems.

Substituting the Forest as a cost unit for its complete road system, or two or three divisions of it, would not destroy the value of A & B Comprehensive Road Plan sheets. An inventory of roads could be kept in any form desired, with estimate of the money needed to complete the system. The Supervisor could keep whatever inventories of other classes of improvements as are found of value but costs would be for the forest as a unit.

No fundamental change is proposed in our cost-keeping system, the principles of which are sound and in advance of anything previously used. Simplification is desired, not only because the individual project costs are of questionable value, if use is any criterion, but because addition of too much detail of this sort tends to vitiate the whole cost-keeping system. It might be that a complete elimination of project costs as applied to all classes of improvements is undesirable, but certainly in view of the present tendency to limit the Forest clerical force, some action along the lines indicated is worth considering.

COMMENT ON THE FOREGOING ARTICLE

By H. I. Loving, Washington

I can readily agree with Campbell up to a certain point but cannot go the full distance with him by any means. Simplification is needed in the cost accounting procedure without doubt, but, as I see it, not the far-reaching change in the basic set-up as Campbell proposes. The more accounts are broken down the greater the control of administrative officers and the more efficient is their administration. Of course this can be overdone - so can everything else - but in our efforts to simplify clerical work and practice economy we must not lose sight of the sacrifices to the management which summary records or records too general in character entail.

Grouping of small projects, such as the 75 standard toilets mentioned, is already authorized to the extent that it can be done and provide at the same time a satisfactory investment record on which changes can systematically be reflected and depreciation calculated. Those who have been chiefly instrumental in developing the cost accounting system have spent a greater amount of time on trying to develop the simplest practicable investment record than on any other phase of the system. It deserves very careful treatment because the costs that will be saddled on activities because of depreciation of these investments are very large. By referring back to the Report of the Cost Committee of June 1928, which was sent to the field for comment, one will find that it was then proposed to establish the investment record on a basis similar to that suggested by Campbell. Very extensive efforts were made to work out the record on the proposed basis by actual tests. The complications proved too great and unsatisfactory, and so far it has been felt that the single project record is simpler and less burdensome than anything else attempted. The field is by no means closed to constructive suggestions.

There is reason to hope that someone will find a better way, provided they do not stop with the initial idea. They must work out their idea to the "bitter end" taking into consideration all factors which must be considered, i.e. how depreciation will be applied and distributed to cost activities, sales, abandonments and transfers reflected, how additional construction will affect proposed method of applying depreciation, and whether, as developed in one suggestion, some separate record of individual projects may be considered essential for administrative reasons, that will increase the burden rather than lessen it. It has so far seemed that these things can most simply be taken care of by records of individual projects.

RECENT SOCIAL TRENDS IN THE UNITED STATES

By Roy Headley, Washington

Anxious watchers of the race between education and social catastrophe have reason to be grateful for Technocracy. To be sure, one is irritated when he finds the much advertised "discoveries" to be only familiar facts and ideas dressed up in a sometimes annoying technical jargon. But what of that, if the ballyhoo and the jargon catch the popular fancy and increase the chance for a little serious questioning of outworn grooves of thought? And what does it matter if the Technocrats always stop before they get to the place where it is necessary to say how they would unify and organize any body of even minority opinion which would be willing to step out on a program of applying any of the Technocratic "discoveries". Maybe that sudden stop and the resulting atmosphere of mystery are merely the showmanship which is necessary as a first step in practical popular education. More power to the Technocrats. I am sorry the hubbub shows signs of waning.

Now comes another reason for gratitude on the part of the watchers of the race between social intelligence and disaster. In 1929, the President asked a group of scientists to make a survey of social trends. If I ever knew of the appointment of such a committee I long ago forgot it. But when the review of the report was published it did not take long to realize that something of far-reaching possibilities had happened. If some man or agency should seize this report and give it dramatic and emotional power, it might eventually exert as great an influence on human affairs as the constitution, the emancipation proclamation, or the thinking summarized in the Declaration of Independence. As it stands, the report lacks devices to catch the attention of the well-known man in the street whose loyalty in an airplane age to ox-cart ideas of social and economic affairs, sometimes causes profound despair. The review of the report has no "ergs" or "continental magnitudes" or "$10,000 incomes". It does possess in an extraordinary degree, integration of facts and ideas from diverse and too often uncorrelated fields of thought; it exhibits scholarship and exquisite workmanship in the expression of involved ideas in arresting and suggestive English. Foresters who see forestry as an integral part of the social and economic life of a people cannot afford to be unfamiliar with at least the 65 page "review" of the findings of the committee. In fact, from now on, anyone wishing to take a hand in any informal discussion of American social or economic or political life needs first to know what these men have said. If possible, a copy of the "review" will be placed in every Regional and Supervisor's office.

It is not that there is anything new or startling in the findings of the committee. On the contrary, it is probably true that there is nothing in the review or the forthcoming 14 volumes of the committee's report which is not already clearly known to thoughtful groups of Americans. The startling thing is that such a study should be financed by one of the great foundations and sponsored by a political leader, both of whom are usually supposed to be as devoted to the "tradition of rigidity in our social philosophies" as is the great body of American public opinion. The function of the 14 volumes is probably to verify and fortify things already known by many people, rather than to reveal discoveries. But when social studies get added to hookworms, tropical diseases, and the other things on which foundations created by wealthy men spend their money, that is news of the first magnitude. But above everything else, the way in which the review of the report weaves together facts, attitudes, and ideas serves to stamp it as the work of truly learned men to whom we can all listen with open and receptive minds.

Here are some random sentences from the review of the report, which reveal something of the depth and breath of the committee's thinking and their discretion in revealing only so much of their thinking as we are ready to receive.

"***** there is in our social organizations an institutional inertia, and in our social philosophies a tradition of rigidity. Unless there is a speeding up of social invention or a slowing down of mechanical invention, grave maladjustments are certain to result."

"***** economic planning is called for. At present, however, that phase represents a social need rather than a social capacity. The best which any group of economic planners can do with the data now at hand, bulky but inadequate, is to lay plans for making plans. **** To work out schemes which could be taken seriously as a guide to production and distribution would require the long collaboration of thousands of experts from thousands of places. ***** To gloss over the difficulties of the task is no service to mandkind; to face them honestly should not discourage those who have faith in men's capacity to find their way out of difficulties by taking thought."

"***** Seemingly, what engineers regard as the slow pace of change in economic organization is due more to absence of unity in will and purpose than to lack of capacity to imagine and carry out alterations. In 1917 the country was nearly unanimous in putting victory in the war above all other aims. ***** No similar revolution could be effected in times of peace, unless a similar agreement in purpose supplying an equally definite criterion of social values could be attained. But is it beyond the range of men's capacity some day to take the enhancement of social welfare as seriously as our generation took the winning of the war?"

"****The American outcome, since all the possible molds of thought and invention have not yet been exhausted, may be a type sui generis, adapted to the special needs, opportunities, limitations and genius of the American people."

"****The tax bill of all the governments in the country in 1930 was ten and a quarter billion dollars, perhaps 15 per cent of the incomes of the people. Of course, the crucial question is what do we get for our money. We spend about the same amount of money or more on recreation, approximately one-seventh as much on tobacco ****. The problem of the extension of the functions of government is then in part a problem of paying for them, which leads inevitably to the question of how this burden shall be distributed among the citizens."

"Willingness and determination to undertake important integral changes in the reorganization of social life, including the economic and the political orders, rather than the pursuance of a policy of drift".

"****More widely in the future than in the immediate past we may expect the growth of thinking about the meaning of the great masses of social data which we have become so expert and generous in assembling. Is it possible that there is a radical inconsistency between the industrious and precise collection of material and the effort to interpret and utilize what has been found out?"

"Unless there can be a more impressive integration of social skills and fusing of social purposes than is revealed by recent trends, there can be no assurance that these alternatives with their accompaniments of violent revolution, dark periods of serious repression of libertarian and democratic forms, the proscription and loss of many useful elements in the present productive system, can be averted."

"****Men cling to ideas, ideals, institutions, blindly perhaps even when outworn, waiting until they are modified and given a new meaning and a new mode of expression*****."

"****The progressive confusion created in men's minds by the bewildering sweep of events revealed in our recent social trends must find its counterpart in the progressive clarification of men's thinking and feeling, in their reorientation to the meaning of the new trends."

SQUIRREL DAMAGE

By Galen W. Pike, Black Hills

The common red squirrel has for years been known to gather, hoard, and eat ponderosa pine seed. Its habits of peeling and girdling the trees are equally common, but the damage has usually been attributed to porcupine.

From the middle of December until the end of February, when food is hard to find and the sugar concentrations in the sap are greatest, the red squirrels peel the bark from the young ponderosa pines and eat the succulent inner bark and cambium layer. This peeling is generally limited to stands of the 40-year age class, the main stem being attacked at a point about 10 to 20 feet from the top.

The stem is usually peeled in a narrow spiral band from an inch to three inches wide and about a foot long. The following season either side of this band may be peeled and the tree completely girdled, after which the tree dies. As many as 40 damaged trees in a group of about a quarter-acre have been attributed to a single pair of squirrels. This article is based on actual observation by the author, who has seen squirrels feeding in a similar manner on Pinus banksiana in Minnesota. Other species are undoubtedly attacked also.

Pitch moth attacks are frequently found at the edges of the peeled strips.

A NEW JOB FOR FOREST RANGERS

By Marvin Klemme, Routt

Manuel Quantano, one of our crack herders in this part of the country, had been having trouble with his sheep. The feed was drying up fast and the sheep were continuously straying off in small bunches.

Ou this particular day it seems that they had given Manuel more trouble than usual. After spending a large part of the day rounding up strays he was satisfied that they were all accounted for except one of his black sheep - which are used as markers. So he started out again looking for this black sheep, and after climbing over a few ridges and through a lot of brush he finally thought he saw it near the foot of a rock slide in a raspberry thicket.

After yelling at this sheep a couple of times, during which it paid not the least attention to him, Manuel decided to see if he couldn't teach this undisplined animal to show him a little more respect. He found a good club and just as he was almost close enough to give it a rap across the back it raised up on its hind legs and let out an awful growl. It was having a feed of nice ripe raspberries and didn't have any intention of being driven anywhere just then. It didn't take Manuel long to agree either; he almost immediately decided that if he never got this particular sheep back in the band, it would still be too soon; and started making tracks fast, and a long ways apart, for other places.

A couple of days later when I stopped to enjoy potatoes, lamb chops, and coffee with Manuel, he very seriously suggested that Forest Rangers should try to figure out some way so that sheepherders could tell black sheep from black bear.

YE EDITOR DISCOVERS

National Forest receipts for the period July 1, 1932, to December 31, 1932, show a total decrease of $392,253 in comparison with the same period of the preceding year. The biggest decrease - $327,665 - was in timber sales. Grazing, sheep and goats, shows a decrease of $70,115; special use, $12,497; water power, $5,621; and timber settlement, $496. The increases were: grazing, cattle and horses, $10,306; turpentine sales, $6,534; fire trespass, $5,094; grazing trespass, $1,287; forest products sales, $493; timber trespass, $414; occupancy trespass, $13.

All of the Regions are in the red except Region 7, which shows an increase of $3,890. Region 5 has the biggest decrease, $151,413; followed by Region 4, with $82,796; Region 2, with $62,321; Region 1, with $54,265; Region 6, with $30,502; Region 3, with $6,688; Region 8, with $5,165, and Region 9, with $2,993.

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The following emergency airplane landing fields were completed last year by Region 1:

Cayuse Creek Field, Clearwater National Forest
Basin Creek Field, Flathead National Forest
Three Forks Field, Flathead National Forest
Bartlett Field, Flathead National Forest
Holbrook Field, Flathead National Forest
Hughes Meadows Field, Kaniksu National Forest
Dixie Field, Nezperce National Forest
Elk City Field, Nezperce National Forest

All of these fields are of emergency classification only. They are all situated in rugged mountain areas, which afford few or no other opportunities for safe landings.

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The depression and struggle of all sorts of business groups for more business naturally lead to an increasing crop of complaints about the central purchasing and distributing activities of the various Forest Service warehouses. One complaint from a retailer on an Idaho National Forest stated categorically that his prices were less than those offered by the Forest Service warehouse at Spokane and that notwithstanding his lower prices he would be able to take a nice profit on the business if he could get it. As often happens, a determination of cold facts has a devastating effect on loose general statements. Detailed comparison of supplemental warehouse prices with prices offered by the retailer showed that in an unweighted average the retailer's prices were 45 per cent higher than those of the Spokane warehouse. Included in the Spokane warehouse prices was the cost of delivery to the town in which the storekeeper was located.

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The shrinkage in Forest Service appropriations for the fiscal year 1934, (based on amounts carried in the Agricultural Appropriation Bill as it passed the House), compared with the fiscal year 1932, is approximately fifty per cent.

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Thousands of inhabitants of the Old World have been given, during the last three years, an opportunity to learn of the wonders of the Pacific Northwest timberland. The National Committee on Wood Utilization of the U. S. Department of Commerce, in cooperation with commercial attaches of that Department, have been showing before governmental bodies, important educational institutions, and professional societies in England, Sweden, Norway, Denmark, Switzerland, Austria, Germany, the Netherlands, and other countries, a film belonging to the Long-Bell Lumber Company. This film, prepared in the company's logging camps and sawmills in Longview, Washington, depicts the felling of the gigantic Douglas fir timbers on the Pacific Coast, their conversion into lumber in sawmills, and the application of this product to a variety of industrial and construction uses.

From all parts of Europe the National Committee on Wood Utilization has received grateful testimony from lumbermen, engineers, architects, builders, educators, and industrialists stating that this film has enabled them to visualize the problems involved to a far greater extent than they could before, with their scant knowledge of American conditions. The greatest interest was shown in Germany, where the film was constantly on the go for more than a year and a half.

There are hardly any virgin forests left in Europe, according to Axel H. Oxholm, Director of the National Committee on Wood Utilization, who on a recent visit in Europe supervised the showing of the film. The audiences were thunder-struck upon seeing trees 200 feet to 300 feet high falling before the axes of what seemed in the picture to be pygmy lumbermen.

On a visit in the Netherlands, Mr. Oxholm witnessed the installation of heavy Douglas fir timbers in dock construction. The supervising engineer, a stranger to Mr. Oxholm, stepped up and pointed to the timbers, stating, "I have just seen the film showing where this lumber grows and how it was produced, and it will always remain in my memory as the most spectacular thing I have ever seen."

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If you fellows have been as much interested in the "Uncle Sam's Forest Rangers" program as we have, you doubtless got a great kick out of some of the episodes. How would it be to drop a line to those folks who are putting on the show and tell them you like the natural, realistic way in which they do it. They may be addressed in care of the National Broadcasting Company, Merchandise Mart Building, Chicago, Illinois, if you're listening to the program on the eastern network; or in care of Station KGO, National Broadcasting Company, San Francisco, if you get the program from the western network.

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Major Stuart will speak over the radio on Monday, February 27, as a feature of the National Farm and Home Hour, on the subject "Forestry to the Fore."

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E. N. Munns, in charge of the Division of Silvics, Washington office, has been elected vice president of the Permanent Committee, governing body of the International Union of Forest Research Organizations. This committee, elected at the meeting of the Union in Nancy, France, last September is composed of the following members in addition to Munns: G. Roth, of Hungary, president; and L. Fabricius, of Germany; Sir Roy Robinson, of Great Britain; Y. Ilvessalo, of Finland; H. Badoux, of Switzerland; P. Guinier, of France; and A. Pavari, of Italy.

The next annual meeting of the Permanent Committee will take place in the autumn of 1933, in Munich.

WEATHER NOTE FROM CALIFORNIA

Regional Forester Show, now in Washington on Copeland work, has received the following note from Lou Barrett:

Don't know whether you have kept posted on the weather out here.

Almost continued storm since before you left with heaviest snowfall in the foothill country known in 50 years. Nevada City, Grass Valley, Sonora, etc. report 4 feet of snow or better.

From this it runs up to 7 feet at Dunsmuir (Shasta) 8 feet at Long Barn (Stanislaus), 10 feet at Stranberry (Stanislaus), 12 feet at Soda Springs and 15 feet on the Southern Pacific Sierra Summit.

The Southern California Mountains are buried. Ridge Route (Angeles) closed; 6 feet at Mt. Wilson (Angeles) and the labor camp at Radford is no doubt snowed in for awhile.

Since more storms are on the way this looks like the winter of the Blue Snow. And many cabins in the mountains are down.

MICHIGAN FOREST FIRE EXPERIMENT STATION ENLARGED

At its December meeting the Michigan Conservation Commission increased the area of the Michigan Forest Fire Experiment Station, operated in cooperation with the Lake States Forest Experiment Station, by the addition of 3,000 acres of adjoining tax delinquent land. The Station now includes twelve sections, or a total area of 7,680 acres, of which 4,350 acres, or 56.6 per cent, are State owned. As most of the privately owned land within the twelve sections set aside is one or more years delinquent, it is probable that the bulk of the area will eventually be deeded to the State and made available for the work of the Station.

SERVICE BULLETIN

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>
> Theodore Roosevelt

Vol. XVII No. 5 Washington, D. C. February 27, 1933

W.I.WILSON'S EXPERIENCES ON THE MONTEZUMA

By Himself.

I started out under Supervisor E.W.Shaw with Durango as headquarters. I well remember the night my outfit came to Cortez and when people asked me, I told them I had quit the ditch job for a Forest Service job. "What was it?" was asked, but at that time I could not tell. I took the outfit home and went to work reading up on papers and started out to line up the Ute Mt. District which was at that time mostly overrun by Indians, their dogs, sheep, goats, squaws and children, about as listed. I would write for instructions, and either Shaw or Bill Fraser would answer in such a way that it was a case of look up "Page so and so in the Use Book;" so it did not take me long to find out they were telling me nothing but "Go ahead."

Spent some time there, and then was told I was head carpenter to build the ranger station at Silverton. I went there in November 1907 and built a station according to blueprints, but it had to be finished otherwise, as the prints and ground evidently would not fit that location.

I learned on that job, when the Service said $1 was all that could be spent, that spending more than that simply meant a lot of trouble ahead explaining. Lumber was priced by Washington, at $15 per M for the building, but the Silverton merchants said they were selling it at $60 per M at town, or $67.50 delivered; so that held us up for a time, but the merchants got their price. Saw that station last summer, the first time since I left it in 1907, and Tom Acord was Ranger at that time. It has been abandoned for years.

Next, I got orders to keep sheep off the Ute Mt. District and I had a time doing that, with Indians on two sides and white men on the other sides, but I finally got them to stay put. Then the cattle men got permits for summer grazing; so that helped out and I got their troubles pretty well settled, but every now and again the Utah sheepmen would drive onto us. At the present time, the families of those old timers are still trying to absorb our ranges for the use of Utah sheep.

I attended a Rangers' meeting at Delta in February 1908, and met men from Washington and elsewhere, and rangers of all kinds and descriptions. From the actions of the townspeople, they took no chances with us, but kept off the streets when dark came. Fact is, you could not blame them, for some came loaded down with guns and spurs and looked rather hard-boiled, but that was as far as it got. All brought saddles for a coyote hunt when meeting was over.

I went to Mancos July 4, 1908, to meet the new Supervisor and see how the new offices of the Montezuma Forest looked. Met Ress Philips and several Washington men there and talked with them. Later Philips came to see me at Ute Mt. and asked me how about going to Norwood District on special ditch work and timber settlements. It told him I was ready right now. I arrived at Norwood August 31, 1908, and began the work on ditch reports. Later went back to Ute Mt. for a short time and then was sent to the Lone Dome R.S. - no such place, just a name, - and was told to tally cattle. Supervisor Philips and I had just ridden all day and arrived at Dolores R.S. when the cowmen sent word they wanted cattle tallied out west thirty miles, right where we had ridden from that day. I was there ready to tally cattle at 7. a.m. After the usual branding and marking was done, they started running the cattle down a hill, two men calling brands, and it was up to me to get them for 1500 head of cattle. I still have that brand list and it looks like a Chinese puzzle, with something near one hundred different brands listed. When we got to the State bridge, I had them tally the number. I was three too many, and that settled the tally business. They knew we were going to tally and some came to me and asked that their bunch be tallied to not less than so many head as the bank had a mortgage upon a certain number, and maybe I had not 10 per cent of that many tallied. That shows how much a chattel mortgage was worth in those days. I also had some bunches to tally where they called the brands of some owners who did not have a hoof in the bunch, just putting it over on him or us, but that brought on a row and took some time to straighten out. I also watched them try to swim the Dolores River and drown twenty-five head before they made up their minds they could not force the cattle across, and that way beat the tally deal.

I came back to Norwood in 1909 and instead of helping the local ranger, I found he had quit. The office stuff was scattered over the town. I was busy with Land Settlement work which later called for the elimination of a lot of good land and all agreed that some was cut out which should have been kept in.

Supervisor Philips told me that Norwood was a tough place and I must watch myself as they had the name of running Forest men off; so I expected something to happen, and it wasn't long in doing that very thing. One day a man, pretty drunk, came into the office and got busy giving information. I was having troubles enough right then trying to get the Oliver to spell correctly under the P & P (Peck and Point) system, and did not want to be bothered with him, but he got industrious, so next thing, he lit in the street and his six gun out farther. When the Marshall came I told him there had been no trouble that I knew about, and got away with it. Later I got a tryout in town, but this time I showed them I was ready and anxious for sports; so from that day to this, I have been taken at my word. Ress was there later and told me I must cut out this fighting, and soon afterward an ex-ranger who had a fancied wrong, started to abuse Ress and there was a foot race, and I told Ress we must cut out fighting, etc., and he said not in that case. Norwood prided itself on being tougher than Dolores ever was, and at that, I believe it had a fair right to the title, for I knew both places. Dolores, of old, known then as the Big Bend, did not have a square cornered house in it, having all corners shot off in scraps over drinking and gambling, but at that, very few were ever killed there.

Philips and I agreed to ride on the general roundup, when more than fifty men would be riding, branding, and cutting out their cattle to take to their respective ranges. They tried in many ways to give us the worst of it, and some one asked why we took all this grief when we did not have to. Ress told him this was the only vacation we got and we were making the most of it. Left camp before daylight and back after dark in July, so you know that was putting in long hours. Just had to be done to make good in those days. We told them we were tallying the stock so we would know how many were being run on our ranges, and then there was a holler coming from some, but it was too late. Then I began to talk special use pastures to them and they fell for that, and signed up for pastures one-quarter mile wide by a mile long, right on the Forest boundary and agreed that fencing must be done on the boundary line before the cattle were driven to the range. All was well until I told them to please let me know when they would drive on the range so I could tally their stock at the boundary gate. Then they said we had put it over again, and since then I have had no trouble about numbers of stock on the ranges.

About this time I ran into a trespass of horses and found thirty head on the Forest. The man agreed to pay $15 and settle, but kept putting it off until Christmas time and I told him he had a Christmas box coming unless he settled and he told me to get it if I could. That meant go my best; so the result was he got into Federal Court and when the mist blowed away he found he was stuck $620.80. Still we had nothing in cash. The U.S.Marshall told me to let him know if I heard of anything loose, so later I mixed up a deal whereby I had buyers for his lands, subject to the mortgages upon them, and the Marshall advertised them for sale. The day before sale, I had a 'phone call that he paid cash in full. That news spread.

While on trespasses, I will mention how I got rid of 450 head of horses, either strays, wild or renegade ones, a few years ago. I got two men, who wanted something to do and liked riding, to get a price on horses delivered at stock yards. This was $5 per head. Told them to gather all they could and if there was any trouble over the deal, I would start trespass cases and hold the horses for fees. Maybe that was rushing the rules a little but it worked. One man claimed two head and we let him have them, but others got busy and gathered and traded them to the Indians in Mexico. This range was cleared of that many between two seasons and not a cent of cost to the Service, but a little of my time.

Another case that gave me a lot of satisfaction was the Greager sheep case. He is smooth and hard to catch, and with his range as it was I was wasting time going and coming and getting nowhere; so I talked him into a better range and nearer where I could get help to watch him. Things went nicely for two months and then I began to watch, for I just knew it was coming. On Labor Day he blowed over on the cattlemen's range and in a few days he had grazed it off. When these men saw it they roared, but Greager was gone with his sheep - took them home so they were not on the Forest at all. I told two men to sue him for the damage to their feed as money would not replace it, and they needed it. They did, and got a judgment for $300 and costs. Then I hit him with a trespass case for being there, and while the Fiscal Agent still has receipts for a settlement in full for $225 Greager says he never paid a cent. Evidently he hates to own up to it, or else our Fiscal Agent is a real Santa Claus.

Prior to taking over the Telluride District, the rangers there always had a time with trespass horses, so when I fell heir to the District, I told these men, who I knew owned the horses, that trouble was ahead if they did not take care of them. They denied the brands, said someone must have put their brand on horses to get them in trouble. A man came to me about horses. I told him these men denied the ownership and as far as I was concerned I wished someone would drive them any place. Later I found he drove a bunch off and the owners had him arrested for stealing their horses; so I told the District Attorney how matters stood and he dropped the case. Then I put in a trespass case against them and told them how I had caught them at their own game, and all they asked was, "How much is the bill?" and paid it like little men. Horses gone, and no hard feelings whatever, for I told them the bill was nothing to what it might be, and even asked them to go into court and show the Service we were in bad, but their attorney said he would look fine in court with a case of that sort.

VARIOUS WAYS OF WORKING UNDER LAWS NOT DESIGNED TO FIT OUR CONDITIONS

By Jack Haile, Washington

The schedule below, designed by one Region, provides for use of equipment twelve hours daily while keeping the crews' time within the 30-hour-week limit and complying with the Saturday half holiday law. Its weakness is that it requires Sunday work, which is objectionable to many persons on religious grounds and, except for acts of charity and absolute necessity, is contrary to the laws of some States. While there appears to be no Federal law prohibiting Sunday work, there may be some question whether Sunday work not urgently necessary should be definitely planned for, because of its possible effect on the attitude of the public, especially when contrary to State laws.

SCHEDULE FOR 3 CREWS
5 day 6 hour
week.

Crew Number	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2	6 6-12	----	----	6 12-6	6 12-6	4 10A-2P	6 6-12
1	----	6 6-12	6 6-12	6 6-12	6 6-12	4 6A-10A	----
3	6 12-6	6 12-6	6 12-6	----	----	4 2P-6P	6 12-6
Total Hours	12	12	12	12	12	12	12
Breakfast	5 A	5 A	5 A	5 A	5 A	5 A	5 A
Dinner	11 A	11 A	11 A	11 A	11 A	11:30 A	11 A
Dinner	1 P	1 P	1 P	1 P	1 P	2:30 P	1 P
Supper	7 P	7 P	7 P	7 P	7 P	7 P	7 P

Gain in effective time 28%
Loss account of Saturday half holiday 5%

The same distribution of work could be accomplished on a 7-day week plan by working each crew 4 hours a day every day, making a 28 hour week, as in the above illustration. It would require, however, camp equipment for three crews instead of two. It would result in 28 hours' wages for 28 hours' work instead of 30 hours' wages for 28 hours' work, as in the above illustration.

Other plans under the 30-hour restriction providing for use of equipment 8, 10 and 12 hours daily (except Saturday and Sunday) follow:

Crew	M	T	W	Th	F	S	Sun	M	T	W	Th	F	S	Sun	M	T	W	Th
1	8	8	8								8	8	4	0	8	8	8	
2				8	8	4	0	8	8	8								8 etc.

Under this plan a crew works from Thursday to Wednesday and is off duty for the following 7-day period. Each crew is working less than 30 hours in each calendar week. Camp equipment is necessary for one crew only. This provides an alternating-crew plan where weekly change of crew is practicable.

Both of the following plans require camp equipment for two crews and permit the earning of 30 hours' wages each week. The 5-hour day plan may ordinarily necessitate maintenance of the camp for the full 7-day week where in the absence of fire danger it would not otherwise be necessary to provide meals over Sunday. It would permit two shifts during a period of the year when the day is too short for a 12-hour work period.

The 6-hour day plan is better adapted to projects where it is feasible for the employees to spend their Saturdays and Sundays at home, during the period that a daily work period of 12 hours is possible and fire conditions do not require that the men remain in camp over Sunday.

Crew	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
1	5	5	5	5	5	4	0
2	5	5	5	5	5	4	0
1	6	6	6	6	6	0	0
2	6	6	6	6	6	0	0

These schedules have been collected from various Regions and it is realized that they were devised for specific local conditions. It is probable that none of them will fit your conditions, but they will serve as a guide in arranging your schedules so as to get maximum service from your equipment.

UNEMPLOYMENT RELIEF POSSIBILITIES ON THE NATIONAL FORESTS

By E. W. Loveridge, Washington

An estimate prepared recently at the request of Senator Wagner shows approximately one man month of work for each 100 acres of National Forest lands. This would involve an investment of close to $1 per acre for the total net area of the National Forests.

The estimates as forwarded to the Senator by Secretary Hyde are segregated by States and show 135,080 man years of labor at a total cost of $149,935,034; a "Man year" being figured on the basis of 300, 8-hour days, and the cost based on a "going wage" placed at at $3.60 in the West and $2.40 per day in the East, plus all other costs.

The classes of work in the detailed estimates are divided between Class A projects, broadly defined as work for which appropriations would normally be made and which are of sufficient value that the Forest Service would be willing to carry the costs on its record as an investment. The second class of projects (Class B) include work of the same type as given in Class A but of such low present priority as to bar their inclusion therein, and also work in erosion control, poison plant and rodent-eradication, and other types of range and forest cultural activities as would improve the National Forest properties or their facilities. No projects which would be classified as "made-work" are included in the estimates. Seventy per cent of the entire estimated cost involves Class A work.

The estimates for work on National Forest lands contemplate, among other numerous lines of work, the construction of 704 lookout houses, towers and observatories, 1,974 other protection structures, 1,453 administrative structures, 13,033 miles of telephone lines, 897 miles of firebreaks, and 1,465,631 acres on which the fire hazard would be reduced, 4,243 campgrounds, 11,498 campground structures, 6,961 miles of range fences, 58,006 miles of roads and trails, 69 landing fields; the improvement by thinnings and otherwise of 2,566,421 acres of forest lands, and the eradication of major infestations of insects and tree diseases from 1,609,250 acres. Due to lack of available planting stock, planting the first year, must be held to 74,125 acres. Even this acreage may be found to be greater than can be achieved the first year due to lack of planting stock, but could be greatly increased within 2 to 4 years by the establishment of additional, and expansion of existing, nurseries.

In view of the impracticability of doing much work on the National Forests during the winter months the number of "man-seasons" is probably the best index of the number of individuals who could be given employment; a "man-season" being placed at 150 work days, of 8-hours each. On this basis 270,000 men could be put to work. 51,000 of them would be at "indirect" labor in the mines, factories, and on similar activities far removed from the National Forests supplying materials for the other 219,000. Nevertheless, if the direct labor alone were spread evenly over all National Forest lands, and of course it would not be, the estimates show an average of 1,500 laborers for each National Forest and 300 for each Ranger District.

It is not generally recognized that the amount of the direct appropriations for unemployment relief does not represent all of the expenditures made as a result of such appropriations. Consequently it is worth noting that the allotted money is spent several times after leaving the wage earner's hands; "the butcher, the baker and the candlestick maker" participating in the use and enjoyment of some portions of the wage, which contributes to the total of employment in greater or less measure. The so-called "velocity of circulation" illustrated in part by the foregoing exceeds 30 at times. It is possibly 10 to 12 at present for the country as a whole. In outlying communities, that is at the distance from financial centers, where forest wages are spent, the "velocity" no doubt exceeds these figures. On this basis of "velocity" of money, it has been roughly estimated that for every man put to work by the Forest Service perhaps as many as two or three others would be put to work in retail and wholesale trade, manufacturing, etc. as a result of the wage money being spent 10 to 12 times. If by employing 200,000 men, we can give employment to an additional 400,000 or 500,000 or even a less number, the expenditure will be a splendid contribution.

Senator Wagner's letter also states "I would also like the have the U.S.Forestry Service ask each of the States east of the Mississippi River how much unemployment money they could use in the States provided that the Federal Government would lend them this money at a reasonable rate for a long time period". Replies from the States to our request for this information are now being compiled in the same form that the National Forest estimates are available.

IN DEFENSE OF FORM 35

By C. A. Nater, Washakie

I have read with interest W. C. Ellis's contribution to the Service Bulletin of January 16 concerning the apparent uselessness of Form 35, Rangers Allotment and Expenditure Record.

Perhaps in years gone by Rangers Robins and Jensen could overdraw various of their pre-determined allotments and not cause the Supervisor any great deal of trouble in getting the necessary amounts to balance the allotments from the Regional Forester. In these days of economic distress, however I will venture the assertion that Rangers R. and J. would very likely get "stuck" personally if they overdrew allotments falling under INF or S&FP appropriations, for example.

If a Ranger overdraws his allotments when he keeps careful suballotment records and then falls back on his Supervisor to "pull him out", it is rather difficult to imagine what overdrafts numerous Rangers would get themselves and their Supervisors into provided no suballotment cards were maintained. By the time the clerk had notified a Ranger of a small overdraft in a given allotment that overdraft might have developed into quite a large one, because of several expenditures from it in the meantime. With "reserve" funds in Supervisor's and Regional offices pinched to almost nothing in recent years I, for one, don't believe I would care to have the job of straightening out Rangers' overdrawings in case the Forms 35 were done away with at this particular time.

YE EDITOR DISCOVERS

To make the public feel that the Forest Rangers and their families are "just folks" - honest, industrious, neighborly, hospitable human folks who are living a life of public service in the National Forests - is one of the aims of "Uncle Sam's Forest Rangers" radio program. Expert opinions of the Forest officers themselves sometimes differ as to whether Jim and Jerry and Bess ring true in these weekly skits. It is interesting to get the outsider's viewpoint from the following fan letter, which is a good sample of many received.

"Dear Jerry, Jim and Bess:

"Wasn't I glad to hear Jim could still chuckle a little when Jerry got him home - as glad as Jerry was to hear his 'stuff' is real 'Forest Ranger stuff.'

"I've listened to your plays for over a year now and they are splendid - not only the acting - but the stories themselves are so inspirational.

"My 10 year old boy, Louis, first discovered and fell in love with your programs and when school began I was asked to listen for him - but I didn't have to be asked more than once. I believe your program leaves a 'better taste in the mouth' invariably than any other program. Rin Tin Tin is a favorite of ours - but once in a while they drag in some horrors. You can always be depended on.

"I do wish you could be put on Saturday instead of Thursday. Then lots of boys could hear you - while now none can. Louis would be so pleased. (Don't tell but I hate Orphan Annie and Skippy and do so welcome something wholesome for the children.)

"If this letter is too informal, it's your own fault, Bess and Jim, for making me feel you are 'just folks'.

"With many thanks for the pleasure you have given, * * *"

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A portion of the White Sands in the Tularosa Basin near Alamagordo, New Mexico, said to be one of the largest and most remarkable accumulations of gypsum known, was included in a National Monument to be administered by the National Park Service by proclamation signed by President Hoover on January 18, 1933.

This area is interesting from both a scenic and scientific standpoint. The glistening "sands," deposits of wind-blown gypsum, are almost crystal clear, and when seen in bright light the area looks like a vast snowfield. In places the "sands" form great barren level stretches and elsewhere are piled into dunes. The dune formations are remarkable in extent and vary in height from ten feet to a maximum of seventy feet. Geologists say that their crystalline gypsum is formed by evaporation. The first product of evaporation is in the form of a hardened crust which in the course of time crumbles and is taken by the wind and blown into lineal piles or dunes.

The animal and plant life of the new White Sands National Monument is interesting. The vegetation is picturesque and practically all of it occurs near the outside edges of the dune area. The center of the area is almost wholly devoid of vegetation. The animals are mostly those of the surrounding desert plain, but there occurs also a peculiar White Sands pocket-mouse, whose color shows a striking approach to that of these gypsum sands. This species has not been seen elsewhere than on the White Sands, and it seems probable that it has lived so long in this area of predominantly white background that it has adapted its coloring to its habitat. Some of the lizards and spiders are remarkably light-colored, but the kangaroo-rats, deer-mouse, and grasshopper-mouse are apparently exactly like those found on the rest of the desert.

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New Zealand's native white pine is reported to be rapidly approaching the point of depletion and eventually, the local trade believes, it will be necessary to import wood of a similar nature. During the first 10 months of 1932 New Zealand exported 19,000 M feet of native white pine, which accounted for 82 per cent of the total lumber exports in that period. This pine is used extensively for butter boxes, both in the domestic market and in Australia, where the bulk of white pine exports are shipped. In fact, recent action by Queensland (Australia) butter graders to prohibit the use of Queensland hoop pine for butter boxes, because of taint, may cause even larger exports of New Zealand white pine to Australia.

Though the present large exports of New Zealand white pine are expected to continue for another year or two, the trade believes that eventually, upon exhaustion of domestic white pine supplies, New Zealand will be compelled to reverse the present procedure and import practically all its requirements for butter boxes, which should react in favor of American box shook exporters.

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Regional Forester Flory arrived in Washington a short time ago to confer with various members of the Department in connection with his duties as ex officio commissioner for the Department of Agriculture for Alaska. While en route he was stricken with septic sore throat and confined for over three weeks in Seattle.

NEW ORGANIZATION TO VISIT R-1 FORESTS

"Trail Riders of the National Forests" is a new national organization which has for its objective saddle and pack trips into the wilderness areas of western Montana.

Sponsored by the American Forestry Association, with headquarters at Washington, D. C., the "Trail Riders" have planned two trips for the summer of 1933. The first, a six-day pack trip into the South Fork of the Flathead, in the Flathead National Forest, will be taken in July and will start from Missoula. The second will, it is said, explore the Sun River country and the Chinese Wall, both located in the Lewis and Clark National Forest. This jaunt is scheduled for August.

Thus "Trail Riders of the National Forests" will spend their days in the saddle; their evenings around the cheerful camp fire; their nights under the open stars. They will be far removed from the "madding crowd," where trails are the only highways and remote ranger stations the only habitations.

Each trip will be personally conducted. Cooperating with the American Forestry Association are the U. S. Forest Service and the Northern Pacific Railway Company.

- R1 News Release.

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>
> Theodore Roosevelt

Vol. XVII No. 6 Washington, D. C. March 13, 1933

THE FOREST SERVICE EMBARKS ON A NEW ADVENTURE

By Roy Headley, Washington

You have read of the trips last summer into the Idaho back country - the largest solid block of primitive or wilderness country in the United States. The Forester made two trips into it, one in the Region 1 part and one into the Region 4 part. Later a simple inter-regional trip was planned with the idea of joint study of common problems and possible adjustment of the inebitable inter-regional differences of viewpoint and practice.

A suggestion here and a push there by the Forester and others served to enlarge the scope of this later trip until representatives of four Regions and the Washington Branch of Operation took part. The expedition may well go ringing down the corridors of Forest Service history for reasons other than its size and the number of crippled mules left along the trail. There was the daily spectacle when, under the blistering sun, E. W. Loveridge stripped to his BVD's and protected his hatless head with a rubber rain hat he had brought along for the rainy weather which refused to appear; the futile effort of C. L. Forsling to find a straight stretch of trail long enough to get a picture of the entire cavalcade; the marvel of Paddy the packer who proved that the (more or less) seasoned horsemen and thinking men couldn't travel fast enough to get away from him and his string; and C. N. Woods broken morale when E. W. Kelley called the crew to breakfast *before* C.N.'s alarm clock went off. Evan never got over the notion that he was in charge of a fire crew which must be fed and gotten on the line before daylight. He was sustained in this illusion by the full moon which had been provided for breakfast illumination for the entire two week's trip. Then there were the evening discussions. After being helped from his horse and filled with supper, the Washington Chief of Operaion would note the quantity of dishes to be washed and thereupon insist on discussing something until late at night. The discussions were recorded by E. W. Loveridge and naturally had to do with the theory and practice of fire control in the Idaho back country and elsewhere. When typed, his notes filled 54 single spaced pages and constituted the source book for various summaries, memoranda and further disputation.

When this file reached the Forester he said in effect, "Why so much talk and so few facts? Instead of suffering from a welter of conflicting opinions about the benefits and costs of fire control, why don't we get busy and devise a method for determining true costs of fire control and identifying and weighing the benefits therefrom? The fact that the intangible benefits are hard to weigh should not deter us. We have developed methods for doing equally difficult things."

The Forester thereupon wrote the Regional Foresters suggesting the inauguration of a real study and asking advice on how the adventure into this field should be organized. He said that if the study is undertaken the representative group of men selected to direct the work should decide on the working plan for the project but that the following three general specifications should be set up in the beginning.

1. The purpose of the undertaking will be to develop a method for determining, weighing and comparing costs and benefits of fire control; this method to be evolved by study and experience in the determination and weighing of costs and benefits of fire control on some National Forest or group of National Forests. This will necessarily involve estimates of costs and benefits from varying degrees of intensity of protection. We need more than a method of determining, weighing and comparing benefits from a single level of protection cost; in order to find the most desirable intensity or cost of protection we need a method for judging critically the relation of the benefits from various degrees of fire control intensity, to the cost of such a degree of protection from fire. It is equally important to know where additional expenditures will give a more favorable relation of benefits to cost as it is to know where present cost outweighs benefits. The method when fully worked out and exhibited in a finished study of some particular area, should be suitable for similar studies of any forested area; and in fact, the essentials of the method will be applicable to everything we do or are considering.

2. While the project should not be permitted to drag until general interest flags, time should be taken to pursue to a reasonable extent the numerous ramifications which will throw light on costs and benefits. Since the benefits of fire control usually involve long periods of time, they can seldom be determined with precision; but they can be estimated carefully. Any long range planning or forecasting is precarious at best but foresters more than most other professional men should be able to deal objectively and successfully with the hazards of such long range determinations. At any rate, a scientific guess is better than uncritical assumptions and wordy discussions between men of opposing temperaments. Much data which has been compiled in connection with various Research projects should prove useful in this inquiry.

3. ?he study of benefits of protection should cover all possible real benefits even when they are intangible and elusive. For example, the importance of forests in giving employment to labor and in perpetuating a stable as against a shifting community life is very much in the foreground just now. This angle of the matter leads far into phases of national social and economic life and organization. I would not have the benefits of protection overweighted in the slightest by such considerations but I would have this angle of the subject studied diligently and any benefits listed and weighed when they can stand critical examination by ourselves and other men who are expert in such social and economic fields. Difficult as such inquiries may be, we should recognize that any success we may have in determining such values will integrate National Forests and forestry more closely with the very fabric of our national and international social and economic life. To the extent that relations between timberland management and broad social and economic considerations are revealed, forestry will cease to be open to the charge that it is the special interest of a single professional group.

JOB-LOAD ANALYSIS IN RESEARCH

By Peter Keplinger, Washington

It has been interesting to note the manner in which the recently published manual of "Job-Load Analysis" has been received by management engineers. To most of us it is just the specifications for a job; to them it is a research project making its contribution to the science of management. More particularly, it is another step forward for job analysis. They are not interested in the jobs a ranger does; they are interested - some surprised - that a Government Bureau should use such techniques; they are very much interested in what the methods add to the job analysis idea. Dr. Person, Managing Director of the Taylor Society, calls it a "noteworthy bit or research." This statement is fairly representative.

Then as research just what did it produce? What new idea or method has it added to management technique? Job analysis is not new; neither is planning or the use of job analysis in plans. To answer their questions requires a review of the development of job analysis in industry.

Job analysis was first advocated as a definite technique for improving work method about forty years ago. It was first used on rough manual jobs such as moving pig iron, shoveling sand, and the like. It is still used on such jobs. It was next applied to skilled jobs, including machine work. Here it proved so effective that its use spread rapidly. The steel cutting industries took it up and for a time it was thought of as their product. Tine studies were introduced, and for years time study and job analysis were almost synonymous terms. Next it was used for rate fixing in piece work industries. About this time its use in training was developed. Later this use spread to the educators and it was used in developing curricula in trade, business, and professional schools. It was next adapted to executive jobs and was used not only in business but also in hospitals, societies and professions. One of the best books published on executive analysis deals with the Y.M.C.A. secretary. About the same time it was adapted to office procedure and that phase is now being developed. What was left for the Forest Service?

As near as I can state it the Forest Service contribution is, "a successful method of combining job specifications with time allowances in executive work for the determination of the executive job-load in a given situation." This had never before been done. The method is universal in application. It will be used.

"Just that one thing," you say, "that is not much!" Well, perhaps not, but when you consider the time the subject has been studied and the number and quality of the men working on it, you realize that no one man or group of men is going to step out very far in advance. The competition is too keen. Management engineers recognize this. That is the reason why the publication has attracted so much attention.

AGES, APPETITES, AND PUBLIC EDUCATION IN PLANTING

(Extract from the R-1 Planting Report for 1932.)

Another boy scout plantation (on the Coeur d'Alene Forest) was set out along the Yellowstone Trail in Fourth of July Canyon, by troups from Coeur d'Alene city, as a Washington Memorial. This project attracted wide publicity. It is interesting to note that although the actual planting was contributed by the boy scouts, the cost per thousand trees planted was the highest of any during the year. The boys were hauled out in trucks from Coeur d'Alene each Thursday evening and back Saturday night and this increased transportation costs. Mess costs were high, as was also cost of supervision. The boys ate from twice to three times as much as the older planters, not including chocolate bars furnished by forest officers on the planting line. Usually there was a hot cake eating contest at breakfast, and the winners (less than 30 hot cakes didn't warrant honorable mention) were unable to plant that day. However, they established a fine plantation that can be pointed to with real pride in the future.

FROM GEN. LYTLE BROWN'S STATEMENT TO THE SECRETARY OF WAR FEBRUARY 28, 1931, TRANSMITTED TO CONGRESS ON MARCH 4, 1931,

BY SECRETARY PATRICK J. HURLEY

There has been much discussion as to the effect of cultivation and forestry on floods. The improvement of the methods of cultivation to avoid erosion and to conserve ground water, and the forestation of bare areas, both appear to retard or diminish run-off, and are to be most strongly encouraged for their own intrinsic value. Their effects on floods is too indefinite and too indeterminate in positive results to be relied upon for a cure of the great evil of mighty floods. Yet no help should be cast away or discouraged.

WHAT TO DO ON RETIREMENT?

By Jno. D. Guthrie, R. 6

To those of us past 50, the word RETIRMENT is fraught with misgivings. Not so much at the physical aloofness from official hours, desk, report form, or even absence of our names on a payroll. But not to be a part of the crowd, in touch with the current official small-talk, to be out of the game - to be on the side lines. On the side lines, though as far as we can see and feel we should be there in the midst of it. What is going to occupy us - our bodies and minds and souls, after we set the pens and pencils a-row, put all the gem clips back in the glass pot - clean up the old desk, on the last official day?

Many there are, and will be, who won't be ready to retire when 62 comes, if retirement means sitting around and twiddling one's thumbs. Inevitably there will be rebellion of soul for some. We may retire from the rolls but not otherwise. We shall have to have something for hands and minds to do. Those who in the past busy years have cultivated hobbies will be thrice-blessed. But with far too many of us, our official work has been our hobby. And when that work is finished, what then?

The average forest officer's life, certainly that of a forest supervisor or an assistant regional forester - has much of variety. It touches many men, many different kinds of men, many angles of life. By 62, the average of us shall know something of life and human nature, should know how to meet men of different levels, how to deal with them, how to get on with them. By this time, if ever, the average man should have acquired tact, calmness of judgement, and breadth of view.

This average forest officer should, and does, have a somewhat broader view of the world and things in it than other men in his salary class,-or shall I say, social class? In short, his Forest Service life and experience should have taught him many things, if ever he could be taught. What to do then after retirement ? How shall he use his training, experience and reputation - about all that he will have left him? To some, business may appeal, to others a farm or ranch, - cattle, sheep, chickens, rabbits, dogs. To some just to fish and golf or to sit and think or sit and read, or just to sit and let the fires burn, may be the summum bonum. To some may come a desire to go into public life, into politics if you please, and I hold that here is something which should appeal to many retired forest officers.

Forest officers have more than once been accused of being politicians, of playing politics. Well, if so, let some of us go into it seriously. It doesn't matter much what kind, - city, county, state or national; mayor, county supervisor, state legislator or senator, governor, or even congressman, or senator.

Are you smiling? Well, if you are, I'll answer that there is many a forest supervisor who has more real brains, ability, sound common-sense, knowledge of human nature, a keener sense of right and wrong, a broader outlook on his country and what's best for it, than many a state legislator and many a comgressman! Why shouldn't some of our retired officers go into politics? Don't politics need better, cleaner, sounder men in it? Has the country's need ever been greater than now for bigger men and better men to serve it?

Aren't we due for many changes in our political as well as our economic life? I maintain that political life offers a useful field for further public service to retired forest officers. I submit this proposition to all those who can look forward and see retirement just a few years ahead.

FORAGE PRODUCTION

On a square yard of range, within an enclosure in Gunnison Valley, Ranger Cox harvested 13 ounces of forage, after the material had been thoroughly dried. The average for the 8 years 1924 to 1931, inclusive, was 8.31 ounces. The yield this season is, threefore, 156% of the 8-year average yield for the area. For 1931, the yield on the same plot was 5 ounces so that the difference between the forage yield for 1931 and 1932 on this area was 260%. There are 4,840 square yards in an acre, with a yield of 13 ounces per square yard, the total yield per acre amounts to 3,931 pounds. The yield for the 8-year average is 2,511 pounds per acre, while the minimum yield for 1931 amounts to 1,512 pounds. On a check area outside, after the close of the grazing season Ranger Cox harvested one and one-half ounces of forage that had not been taken. This year's average less this ounce and a half which would not be used under conditions as they were in 1932 would indicate that kind of range will yield 3,479 pounds of air forage per acre, that can ordinarily be utilized. From the above figures it can be readily seen that it is decidedly to the interest of the stockmen to build up their ranges until they are producing the maximum amount of which they are capable. The above yield is perhaps better than the average yield for cultivated hay land throughout Sanpete County. It should be borne in mind, however, that the areas upon which the study was made is some of the choicest range on the forest, also that there is considerable waste land where the maximum yield would not even approach the figure above-given. It is at least interesting to study range conditions with a view of determining just what we can and should expect of our summer grazing lands. --Manti National Forest News Items

SHOOTING THE ANTELOPE:

Supervisor Adams, Ranger Koogler and Game Specialist Musgrave went to the North Lake county last week to get some moving pictures of the antelope. We chased one large bunch of 150 for six miles or more over very uneven terrain at an average speed of 30 miles per hour, with occasional spurts up to 40 miles to prevent the bunch from passing ahead of the car. The idea being that we could get Musgrave abreast of the bunch and then he could step out of the car and start winding the crank. This proved unsuccessful as the antelope were almost out of sight before the camera got into action. Finally, Musgrave with the camera located along a fence, with Koogler out from this point, say 200 yards, then Adams rounded up a bunch via the Ford and chased them past the camera. One small bunch almost ran Musgrave down as they were so busy watching the car that they crowded the fence too closely. Bill and I had hopes that Musgrave would get run down but no such luck. We ran down one single antelope in the timber as he had a stiff fore leg. A few pictures were taken close-up, but we didn't finish them as the antelope got loose. We had him tied but while I was trying to get at the rope and Bill held him by one horn, the antelope gave a jerk and was gone, Bill having a perfectly good horn in his hand for a souvenir. Aside from the lame backs and knots on our heads, due to difficulty in staying in the cushions, a good time was had by all, even the antelope who seemed to enjoy the roundup, or race would be a better name for it. (Seven Cities Of Cibola)

"CARY" IN AN ENLARGED FORM

By E. E. Carter, Washington

In every profession, certain books are so well known that they are commonly identified merely by the name of the author. Sometimes the title is discarded the more readily because it was intended to emphasize some idea or modest limitation which time has shown to be untrue. So it is among foresters with "Cary." Cary, Austin: Woodsman's Manual. 4th edition, 366 pp., illus. Cambridge, Mass., Harvard University Press, 1932. The original title, "A Manual for Northern Woodsmen," implied both geographical and occupational limitations. The former has now been removed, so far as the United States is concerned. The "woodsman" remains to emphasize the thought expressed repeatedly in the text, sometimes subtly, sometimes bluntly, that the book is not written for students of forestry, but for a special class of practical forest workers. Doctor Cary seems to believe that there is some gulf between these groups. It is perhaps significant that those who use his book have tacitly discarded his classification as represented by the title. Although the proponent of the distinction between foresters and woodsmen, Doctor Cary is one of the best exponents of its inherent falsity.

Few men in forest work need to be reminded of the contents of the previous editions of the manual. There are too many cover-stained, pencil-marked, dog-eared copies on the desks, in the packs, or in the pockets (rarely in the bookcases) of the doers in forestry to make necessary any extended discussion of the chapters on Land Surveying, Forest Maps, Log and Wood Measurement, and Timber Estimating. They have been and are a very present help in time of trouble. The chapter on Log and Wood Measurement is still the briefest and is not so fully satisfying, but the worker in this particular field now has available other and more comprehensive guides and instructions. These four chapters have been retained with few changes. They reflect the experiences of a man who has done under forest conditions the kind of work described, who knows "the tricks of the trade," and who can tell of them plainly and simply.

A new chapter, On Growth of Timber, has been added. The surprising thing about it, and about the discussion of it in the preface, is the apologetic tone with which it is presented - apologetic not for its substance, but for its inclusion. Doctor Cary says in effect that the time has come when woodsmen in America have to deal with growth as part of their business, so he has tried to help them in their thinking and in their work in this field. He succeeds in offering something of value to many to whom the subject is not new as well as to the previously ignorant.

This value to the student, in forest school or out, lies in the coldly practical and cautious way in which Doctor Cary selects tested facts and omits unessentials and refinements. He uses the case method, telling briefly but effectively what has been done and tested by time in specific instances; he shows suspicion of everything that has not proven its worth by actual results. For example, he states: "The normal yield table * * * is an ideal or standard, and at that less reliable than might be thought because with the idea of full stocking understood in a general way, different men vary more or less in interpretation." He is didactic on occasion, with the experience of an observant lifetime rather than definite data to support him. "A stand that has the right [yield table] number of trees for admirable stocking at 20 years of age is liable at 50, if unmanaged, to be much too dense to yield best or according to the table. Conversely a stand that in early years appears entirely too open may in the course of time contain just as much timber as normal stands." Such reflections of Doctor Cary's years of prsctical experience add greatly to the worthwhileness of the book. But sometimes a few added words of explanation would not be amiss, as when he includes that unusual table for second-growth hardwoods in New England, with the indicated number of trees per acre increasing each decade. In this case, little space would have been needed to bring out more sharply the facts that only trees 7 inches d.b.h. and larger are considered and that the table carries the stand only to age 80.

There is a challenge to American foresters in Doctor Cary's caution and skepticism. Here is a man of unquestionable qualifications as a forestry leader and of wide reading in

American forestry literature, undertaking to write about growth for the guidance of the hard-headed forest manager who lacks forest school training. Partly directly, partly by inference, and especially by omission, he warns his readers that there is little on the subject as yet available for confident application by the forest owner or manager; and that they should be wary of the complexities with which professional foresters are likely to enmesh and baffle the practical man. Is Doctor Cary right, granting that the practical man must have good intelligence in order to be really practical? If so, what needs to be done about it?

The new chapter is delightful reading. In it, Doctor Cary is philosophical and even epigrammatic. "The relative cost of operating large and small sizes [of trees] is a matter that it was easy to drop out of mind, while the fact that timber does actually grow and improve was apparently beyond the comprehension of many." (Doctor Cary obviously does not consider data showing high costs for small timber to represent any startling new discovery.) "Forests have been selectively cut through all stages of lumbering history." "The best of managers need reminder, guide and check" — and therefore plans are necessary. "Radical reversal of policy without adequate grounds for it is of course a bad and dangerous thing." And in his summary of the subject, "Too elaborate figuring may lead to confusion." If the new chapter serves no other purpose than to remind foresters (who can read it profitably, whether they are woodsmen or not) that "simple methods are best," it will take its place with those written in former years to make the whole book a cherished possession.

THE HOHENHEIM SYSTEM OF PASTURE MANAGEMENT

By R. R. Hill, Washington

Considerable is heard these days about the possibility of increasing the nutritive value and the carrying capacity of forage by adding fertilizers. Main interest in this line of endeavor centers around the Hohenheim system of pasture management which developed in Germany under stress of the World War necessity for increasing production along all lines. The main features of the system include application early in the spring and at frequent intervals during the summer of nitrogenous fertilizers such as sulphate of ammonia and at less frequent intervals of phosporic acid and lime. The effect of the fertilizer is to cause plants to develop more rapidly in the spring, to remain greener during the dry periods of the summer and fall and to increase the quantity and protein content of the forage crop. The carrying capacity of pastures under experimental conditions has been increased as much as three fold. The higher protein content of the forage is reflected in better growth and condition of grazing animals.

In order to secure the best results from the system it is necessary to keep the forage grazed so there will be constantly a fresh succulent growth. In order to accomplish this result rotation grazing is practiced through six or seven pasture units. After the growth in a given pasture is consumed stock is removed, fertilizer is applied and after a short rest the unit is again grazed.

It is quite obvious that this system can be applied economically only where carrying capacities are high, the growing seasons are long and where returns from livestock products are good as in the dairy industry under favorable conditions.

The U. S. Department of Agriculture and the Experimental Stations of a number of eastern and mid-western states are testing the adaptability of the suystem to pasture conditions in this country.

GAME, FISH AND FINANCES

By E. W. Loveridge, Washington

In response to a request by the Copelanders for volume of work data, Range Management recently furnished a statement showing the relatively heavy receipts received annually by the States for fish and game licenses which are used almost exclusively on the National Forests. These figures have again raised the question as to the place which our game resources should take in any complete picture of National Forest activities. Particularly, should not the receipts from this "-ederal" resource be credited in our Receipts record with a notation to the effect that these funds are donated to the States concerned?

The following points bear on this question:

Inclusion of such a statement in our Receipts record would carry the inference, which should be carried until the Supreme Court decides otherwise, that the fish and game on the National Forests are the property of the federal government.

The statement would bring out clearly each year an additional amount that is "contributed" to each state.

The total of "receipts" from all activities would be enlarged to a considerable extent. With the public watching net expenditures by federal bureaus with increasing closeness such increases to the receipts side of our account would be very helpful.

To make thus a financial side to game management will add a feature to it that is now badly needed if complete consideration of the interest in game management is to be expected of forest officers.

The important place that game management and the financial returns from game management have in forestry practice in European countries indicate that we are miles behind in this activity when one considers the relatively narrow aspects with which it is treated here.

With very few exceptions the game resources on the National Forests is protected and managed solely by federal employees. Yhe federal government does the work; the states take the receipts.

The point to all of this is that even though we do not wish to raise the question of ownership of the fish and game on the National Forests there is still a doubt but that this resource belongs to the federal government. Consequently until there is a definite decision to the contrary as to ownership, the Forest Service should keep a record of the receipts to credit against the expenditures in this activity.

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SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 7 Washington, D. C. March 27, 1933

THE NEW SECRETARY AND ASSISTANT SECRETARY VISIT SERVICE

Secretary Wallace and Assistant Secretary Tugwell were introduced by Major Stuart to members of the Service Committee at the March 9 meeting. In introducing them, Major Stuart said that the Service Committee was on that day holding its 1437th meeting, in the room occupied by Gifford Pinchot in 1900, and subsequently by Colonel Graves and Colonel Greeley, and in which has been made forest history. He said that the Service has cherished traditions, a record of which we are proud, and a reputation which varies somewhat with the person with whom one talks. We are in the position, he pointed out, of a person having a car which is not running as fast as desired; we do not propose to change the model, but we want to and will speed up quite a little if the brakes are wholly clear.

Major Stuart said the fact that the Secretary and Assistant Secretary of Agriculture, within five days of the time inducted into office and in spite of the terrific pressure to which they are now subject, had been good enough to appear at a Service staff meeting showed very clearly their desire to cooperate with the Service in what we jointly think should be done for forestry in the United States. He said he had promised to hold them but a short time and expressed the appreciation of all for their coming.

Secretary Wallace said that meeting the Service men wakened in him a little hunger - that when he was at school in 1906 he was determined to take up forestry as a career but that his father dissuaded him from it. He said he hoped that he and Assistant Secretary Tugwell would be able when opportunity offers to accept the Forester's invitation to get out on to some of the Forests, and that Major Stuart had told him he must not judge the men in the field by the bunch he found here.

Assistant Secretary Tugwell said that when they got into the car to come over to the Service he had asked if he would have to make a speech, and that Major Stuart had looked him straight in the eye and said "No." He said he would therefore not make one, but would say that as time goes on he believed we would all realize that the Administration, so far as the Secretary and Assistant Secretary of Agriculture are concerned, are with us; that this we can discover through actions rather than through anything he could say at this stage.

The Committee members were given opportunity to meet and shake hands with the Secretary and Assistant Secretary before they returned to the Department.

IS THE IMPOSSIBLE ABOUT TO BE ACCOMPLISHED?

A recent casual note in the Region 6 Committee Meeting Minutes stated that "An improvement in the radio voice set has been perfected which will cut its weight from 56 pounds to 13 pounds."

Washington Office men thought this must be a misprint, because according to all previous experience and accepted beliefs as to limitations of radio, voice transmission was simply not within the bounds of possibility with sets as light as 13 pounds. An inquiry was therefore dispatched post-haste to determine whether the radio crew in Region 6 had again found a way to perform the impossible. The following memorandum from Mr. Horton tells the story.

"A new phone set is being finally tested this week. It will weigh about 13 pounds. As far as we know now it will very nearly duplicate the performance of the 56 pound SP (voice) set. New tubes made this possible along with our experience last year. Cost of new set will be only slightly more than former P (code only) set which by the way weighed 11 pounds. If final tests check the preliminary tests we will have a 13-pound phone and CW (code) set weighing only 2 pounds more than the original P set which was code only. Opinion generally is that phone both ways is worth the 2 pounds extra weight.

"Experience last summer with manufacturing also made it possible to construct this set in such a way that assembly costs will be reduced. New set is also built in such a way that a straight CW (code) set can be made by simply leaving out the phone equipment and shortening up the chassis.

"Have been carrying on extensive tests and find SP (voice) sets if handled by interested men can cover long distances. The Umpqua in Oregon talks to the Santa Barbara in California. Vancouver, Wash., made a contact with Ogden, Utah. I have heard SP (voice set) 31 in Okanogan, Wash., talk to SP in Roseburg, Oregon. I have set up about 30 miles west of Pendleton and talked (voice) with Okanogan, Vancouver, Eugene, and Cosmos.

"Am planning an early spring trip to R-5 with some new equipment. Believe they need radio down there. Have some equipment now, i. e., higher power which is particularly adapted to Region 5 conditions.

"Orders received this spring are very encouraging. Seems to be a growing interest. Supervisors asking for radio set ups to take place of proposed phone line extensions.

"Expect to use 5 meter job Mt. Hood lookout to Summit Ranger Station and thus cut out heavy annual maintenance costs on phone line over glaciers and snow fields. Will have positive information on possibilities of this ultra short wave business.

"Have a new 40 watt set under construction at present. It is an A. C. job, which will operate on ordinary city juice at practically no cost. Combined with stand-by receiver will serve a whole forest as a clearing station. Also have a 60 pound, 110 volt 60 cycle self excited gas motor driven generator, costs $125, which will operate this 40 watt set. Whole outfit will weigh probably slightly over 100 pounds. (This is a guess.) Costs complete with stand-by receiver $248.20.

"Sorry I haven't kept you more closely informed but we have been too busy with doing to do much writing."

W. I. WILSON'S EXPERIENCES ON THE MONTEZUMA

By Himself

(Cont'd from February 27 issue)

About 1913, Supervisor Philips left for Denver and Gordon Parker was in charge, and we went around over grazing because I said a part of Disappointment was in the Forest, so I had to prove it. Well, corner stones were found and that opened up a range for 800 cattle that had been used free by those people for years. They were supposed to be hard to get along with, but not a word from them, only they asked for the permits and were prompt to pay.

Grazing business for several years received most attention and with sawmills going, my time was taken up. Then came Land Exchange and I always felt that I had a hand in getting several mighty good trades through for this part of the Forest. Trading just suited me, and I spent some time with the exchange crew here about 1922, and am still exchanging lands, but trouble with me, I have nothing to trade on my district. Trades were made straight across, as well as three-cornered trades of land for timber, but if anyone wished to exchange, I got busy and got something to satisfy him. Even Assistant Regional Forester Stahl told me some of my trades were absolutely stealing from some of them. Anyway I got this district shaped up better than it was.

Supervisor Parker left us and Supervisor A. F. Hoffman took his place, and many is the mile we have ridden together looking over ranges, sales, exchanges, and forest work of many kinds. Something like twelve years or more, and many changes have taken place in range handling during that time. Intensive reconnaissance was made of the Montezuma and from that the salt sign work started. I used them first as a tryout, myself, and along with a man in his seventies - Robt. Caldwell - we got things to going according to rules and this range showed results in two years, and then came the talk of how it happened. From that time I was busy placing salt signs and talking salting to the permittees, and today this range has improved wonderfully. The distribution of cattle was next given attention. I even range sheep and cattle on the same ranges, and get along, but I am not talking that as a regular diet among stockmen.

Situated as I am, four days mail from Mancos office, had I needed help it would be old when I got it. So, I made a practice of not calling for help but told permittees if they had a kick coming to take it up with the Mancos office. Very few of them ever did, and they found out from the Supervisor that he was backing me as long as I was right. I tried to see the permittees of my district get all that was coming to them. Sometimes they did not know they could get this or that, so in this way they saw I was helping them. When I got the Lone Cone Stock Association formed, I had the backing of all stockmen. Later when the sheepmen felt they should have a separate organization, I was asked to help them, and now what the Forest Service wants is gotten. Under such circumstances, why should not a man get along? Give them to understand you hold them responsible for their ranges and they will do the work.

By strict adherence to the feeding qualifications required of stockmen during the winter months and the use of the dependency zone for lines, the grazing business of any Forest can be regulated nicely. If trouble arises, then read the small print on the back of the permit, and I have found they quit or else cancel their permit for non-compliance with its terms.

Trail and road work here have taken a lot of time but I have gotten a great deal of cooperation. One morning, going to trail work, I had a man with me, and we heard a cry as if sheep were lost, but not expecting it around there, we rode up the hill and there were three bears trying to eat a hole into a three-year old steer, and it still kicking. We ran them with the horses, but the old one showed fight so we took to the cubs about half grown, and put them up a tree. The man said, give him the ax I had and he cut down the tree, and all I had to do was catch the bears, but I lost 'em as the tree hit the ground. So we watched and listened and soon heard one crying, so I rode that way and located it. It was on the fight and the best I could do was run over it with the horse and then back again. By that time the man got a swing with the ax and caught it across the nose and we downed it right now, cleaned it, and hung it up until we came back in the evening, when I carried it in across my lap in the saddle. No use telling bear stories here for I could fill pages with such things.

I almost forgot to mention fire business. Could be overlooked if I did, for in all my time on the job I haven't had a fire. Some say this must be an asbestos district, but call it what you may, I do not want any fires. I have seen the original Norwood District grow by taking in a part of the Disappointment, then some of Groundhog, all of Placerville. and later a large part of the Telluride Districts, and still I have gotten away without a fire. I have had some close calls from outside fires getting into the Forest. I believe time spent in telling people, when they have time to listen to me, of the results of a fire and the cooperation I have had in all things, has always made me feel that should a fire start, some men would be there, working to save what could be saved before I arrived. I have seen this Forest as dry as any other ever got. but I had the satisfaction of knowing my keymen and cooperators were on the lookout for fires, possibly more than I was. I surely feel grateful for their cooperation. I cannot help but feel proud of the no fire record I have for twenty-five years, when so many fires occur around me.

Some years ago, I never went through Telluride but the paper reporter pestered me about the why and wherefore of my goings. I came in on the train one night from Mancos, and here he was, and me hungry, so I just told him I was on my way home from fighting a fire on La Plata Mt. above timberline and four to six feet of snow. He was so busy taking it down he didn't see the grin it produced. The next morning's paper came out with the story, and from that time on he never asked me where I was going, but I felt like he had a place picked out for me later, at any rate.

Maybe I should knock wood, but then, a blockhead shouldn't need do that. I look back over the past years and many things come to mind where changes have taken place. Also, how the old timer who stirred troubles, because he couldn't run where he wished, has come to it and many of those same men are staunch friends of the Service. Many travelers stop and ask the Ranger for information because they have been told he knows. When some talk about the Ranger only having to fish and hunt, and have one good time after another, I feel sorry for how little they know.

A Ranger's best friend is his horse, and I believe in good horses, as many of the Forest men know well from riding them. A Ranger is up and doing if he is making good on his job. When you talk eight hours a day you are kidding yourself, for there are times when it is twice that. Then, there is the slack period, which we all have, providing we have tried to keep our work up to date. His reports must be in the office on time, or he holds up the Supervisor's reports, and no need of that by using a plan or management in his work.

I have been asked what are the duties of a Ranger. Off hand, it is attending to other people's business for them, and being pleasant at all times with everyone, answering questions as best you can and being ready to help any and all people on a minute's notice. Promptness in all matters is a great help on this job, and makes for others to be prompt if you are. The job of Ranger is not an easy one to fill, unless you have the good will of your permittees, but by doing things for them, they see you are trying to keep them in good standing with the Service. After twenty-five years of service with all kinds of people, there is a great satisfaction in knowing that you tried to use all fairly, and that you have the good will of the better class of people in all your doings.

A great deal of the success a Ranger has is from the backing he gets from his Supervisor. I have had backing right down the line, from everyone I have worked under, and I surely appreciate it as it helped make the rocky road a little less rough by knowing I had the support. I have met many Forest officials and have always felt free to talk with them about anything on the job. I have found them ready to advise and a friendly bunch at all times. My home is open to them in the future as in the past, and when my time is up, I expect to still live on right here, for here are my interests, my family growing up, my friends. With such surroundings, why should I think of going somewhere else? My memories of the past twenty-five years bring back many happy times, and many of them are about Forest matters as well. I always tried to keep my work from crowding me, even if I had to work longer at times. The satisfaction of having it done was what counted with me, and it still does. This winter I am cleaning up work and putting it down on paper so that a new man can take hold and go on from where I leave off, without wasting time or wondering what about things.

Should I be of any service to you after my time has been reached, I will try to be able to help you, if called upon to do so, and I hope you will feel free to call upon me. I hope you people of the Service will drop into see how a Ranger who is out, is making it, but don't think because a Ranger is out that he is down as well. I see no need for that whatever, and I believe you think the same.

CORRECTION IN INTERPRETATION OF SECTIONS 202 AND 203 OF THE FISCAL YEAR 1933 ECONOMY ACT

By H. I. Loving, Washington

The Economy Act of June 30, 1932 created many points of doubt, some of marked importance, among them being one occasioned by the assignment of temporary or seasonal employees to higher positions at increased pay. The Forest Service contended that such action constituted the "filling of a vacancy" under section 203 of the Act and as such was in no wise prohibited; the Comptroller held on at least four occasions that such action constituted a promotion and thus was in conflict with section 202, unless approved by the President. The four decisions are listed below with excerpts quoted from each; decision of February 2 is also quoted in part which it is gratifying to state completely reverses the earlier restrictive rulings.

Decision A-44156, August 26, Department of Commerce

This decision relates to the personnel of Coast and Geodetic Survey field parties, the average length of employment annually being from four to five months. The following is quoted from the Comptroller's opinion: "Any addition to or change in the duties of a field employee by administrative action with a view to increased compensation would constitute an administrative promotion which is prohibited by Sec. 202 of the Economy Act of June 30, 1932."

Decision A-44521, September 14, War Department

The question raised was whether temporary appointees to essential positions for emergency work may be selected from among employees already in the service, even though the action results in increasing the pay of the temporary employees appointed to a higher position. The Comptroller held that "promotion of an employee already in the service to fill such a temporary or emergency position without the approval of the President, which would result in an increase in compensation of the employee, is prohibited as an 'administrative promotion.'"

Decision A-44825, October 3, Albert Morris, Fiscal Agent, For. Ser.

The question submitted for decision related to a cook for a 15-man crew receiving $90 a month who was hired by the Supervisor at $105 a month as cook for a 25-man crew, the going wage for a crew of the latter size being the amount proposed. The Comptroller stated in his ruling: "As this employee is in the civil branch of the Government within the purview of section 202 of the act of June 30, 1932, 47 Stat. 400, said section precludes the proposed increase in her compensation * * *".

Decision A-44785, October 3, Agricultural Department

The submission dealt specifically with the filling of temporary or seasonal positions in the Forest Service by appointment thereto of employees at lower compensation than that of the positions to be filled. The Comptroller ruled "Section 202 prohibits administrative promotions, the only exception thereto being when the promotion results from the filling of a vacancy when authorized by the President. There is no mention made in that section of temporary, emergency, seasonal, or cooperative positions and consequently such employees are not excepted from the requirements of Presidential approval in the case of promotions."

Decision A-46907, February 2, Interior Department

The submission had to do with temporary employees in the National Parks, such as laborers, truck drivers, skilled tradesmen, etc., the question being whether one of the last named positions may be filled without Presidential approval by the appointment of a laborer already on the rolls at a higher wage rate. The Comptroller held "If the position occupied by an employee is temporary and has been properly filled under authority of section 203 of the Economy Act without the authority or approval of the President, it is lawful to appoint the same employee to a separate and distinct temporary position with different duties even at an increase in compensation without the authority or approval of the President."

While the Service is greatly pleased from the administrative viewpoint to be clothed with the authority that the decision last mentioned carries, it is regrettable that the ruling was not forthcoming sooner. Many an hour has been wasted in the fiscal offices and on the forests in the last few months in gathering the data and putting in proper shape "promotion lists" of temporary and seasonal employees for transmittal for Presidential approval. Under the earlier decisions, when temporary foremen, machine operators, etc. were needed incident to the expansion of construction required by the Unemployment Relief Act, the approved rates of pay for such work could be allowed only when the men selected for the jobs were not under employment or when Presidential approval was obtained. An experienced foreman who happened to be working as a common laborer could not be given more than the common labor rate under the decisions if needed to handle one of the new crews except through the slow processes of securing formal approval. The resulting handicap to management of the work, and the loss of pay and resulting bitterness on the part of innocent victims can never be measured.

YE EDITOR DISCOVERS

The Secretary of Agriculture has approved the recommendations of the Forest Service that the grazing fees now in effect be applicable for the first of the two payments of fees due in 1933; and that a study be undertaken immediately to determine the practicability of relating grazing fees to the market value of livestock; and whether for the second half of the year 1933 and for the year 1934 this method of establishing grazing fees should be used. The Regional offices have been notified of the Secretary's decision, and the study is now under way.

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The latest economy act, passed by the House on March 11 and by the Senate on March 15, amends the economy act passed just before the adjournment of Congress, which in turn amended the economy act passed June 30, 1932. The anxious administrator desiring to know what next he must adjust himself to is compelled to spread the three documents out on the desk before him and refer from one to the other. He usually gives up in despair at getting any working idea of just what the latest provisions are. Very shortly, however, someone will be asked to compile from the three bills a consecutive document which will represent the law now in effect and be a usable instrument for all the men who will have to apply its provisions. Copies will probably be mimeographed and supplied to the field offices.

The latest act contemplates control of salaries by a cost of living index, with the provision that reductions below normal salaries shall not exceed fifteen per cent. The cost of living index if based on retail instead of wholesale prices has the great advantage that in the event of prices rising so that the value of the purchasing power of the dollar is cut in two, as was roughly the case from 1914 to 1923, salaries will keep pace with the rising cost of living. During the period of war and post-war inflation Federal employees got no such consideration.

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On Forests where the water table is within a short distance of the surface, Region 9 has found that extensive use of power pumps is possible by pumping directly through a well point. In an actual test on a going fire the well point was driven and the Pacific Marine was throwing water to capacity within 20 minutes after arrival at the fire. A pitcher pump is necessary for priming purposes and in order to prevent the motor from burning out. The well point is driven during a fire just as any other well point is driven, and the outlet attachments placed and connections made with the Pacific Marine. Blueprint specifications may be obtained from Region 9.

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In spite of the absence of early fall rains, which prevented fall planting in R-1 and R-5, the total National Forest acreage planted in the calendar year 1932 was approximately 24,900, only about 1,900 acres less than in 1931. This was due to the strenuous efforts to use as much as possible of the planting stock in the nurseries in the spring of 1932, in anticipation of a sharply reduced appropriation for the F. Y. 1933. No one wanted to carry over any more stock than was absolutely necessary. In R-2, for example, planting appropriation funds were supplemented from G. E. so that stock from the Bessey Nursery on the Nebraska Forest could be planted as two-year-old trees on the Black Hills Forest instead of being planted on the Nebraska as three-year-olds in the spring of 1933.

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Establishment of the Maroon-Snowmass Primitive Area within the Holy Cross National Forest, Colorado, was recently approved by the Forester. This area, containing 62,600 acres, is located west and south of Aspen, on the headwaters of Castle, Conundrum, Maroon, and Snowmass Creeks, all of which are tributaries of the Roaring Fork. About one half of it is above timber line. Capitol, Snowmass, Maroon, Pyramid, Pearl, and Taylor are a few of the best known peaks, all of which range around 14,000 feet in elevation. About 19,000 acres of this area contain virgin timber out of which only a few trees have been cut for the cabins that have been erected by the occasional prospectors who have searched these rugged mountains for precious ores.

The Colorado Mountain Club has conducted several expeditions to this region, and its 1933 summer trip will again be made to the Maroon-Snowmass country. Snowmass Lake, which is one of the most beautiful alpine lakes in the State, has had its picture reproduced over the entire United States.

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A recent communication from the Department casually mentions the fact that three Ford Model A roadsters owned by the Bureau of Animal Industry were driven 70,158, 58,085 and 76,629 miles up to January 1, 1933. We wonder if the Forest Service has any cars in this price class which have been driven more than 76,000 miles.

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An editorial in The Nebraska Farmer for March 4 says: "Nebraska is receiving a splendid practical lesson in the value of woodlots. Wood worth two million dollars has been cut for fuel in Nebraska this winter, according to estimates by C. W. Watkins, extension forester of the Nebraska College of Agriculture. One has only to drive the highways and byways and through the towns and cities of the State to see concrete evidence of this tremendous resource. In farmyards, along water-courses and on town lots are thousands of woodpiles. Not only has this wood been a blessing in the form of needed fuel to provide warmth in homes, but in many communities, wood-cutting has been a relief activity for the unemployed. There is, indeed, a valuable lesson in this. Had it not been for the foresight, faith, and efforts of many pioneers who planted the trees that are now yielding returns after years of growth, Nebraska would be without this big asset. The extensive use of wood this winter should furnish ample incentive for additional planting of trees for fuel and fruit."

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Requests for authority to fill vacant positions which have been accumulating for months have all been approved by the Department. If approval is likewise given by the Bureau of the Budget, routine personnel business incident to the filling of vacancies will proceed in an orderly way.

LAND USE PHASES OF TENNESSEE BASIN UNDER CONSIDERATION

Assistant Secretary Tugwell appointed, on March 8, the following committee to sumbit a report, with recommendations, on behalf of the Department of Agriculture, covering the land use phases of the Tennessee Basin question commented upon publicly by President Roosevelt:

R. Y. Stuart, Forest Service, Chairman
Nils A. Olsen, Bureau of Agricultural Economics
Henry G. Knight, Bureau of Chemistry and Soils
S. H. McCrory, Bureau of Agricultural Engineering
C. W. Warburton, Director of Extension Work
P. G. Redington, Bureau of Biological Survey
William A. Taylor, Bureau of Plant Industry
John R. Mohler, Bureau of Animal Industry

A meeting of the committee was held immediately thereafter at which Major Stuart presented briefly the major points covered by the preliminary report on the Tennessee Basin submitted by Regional Forester Kircher on February 28. Discussion was had of the report and the large cover type map which accompanied it.

Dr. Tugwell stated at the organization meeting of the Committee that committees would probably be formed in other Departments which have an interest in the Tennessee Basin and that it is probable there will be inter-departmental committee conferences shortly.

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SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol. XVII No. 8 Washington, D. C. April 10, 1933

COPELAND REPORT SUBMITTED TO SENATE

(Extracts from the Secretary's letter of transmittal)

The President of the
United States Senate.

Sir:

I have the honor to submit herewith a report on the forest problem of the United States prepared by the Forest Service of this Department, pursuant to Senate Resolution 175 (72d Congress, 1st Session), introduced by Senator Royal S. Copeland.

The Department construes the central purpose of the resolution to be a coordinated plan which will insure all of the economic and social benefits which can and should be derived from productive forests by fully utilizing the forest land, and by making all of its timber and other products and its watershed, recreational, and other services available in quantities adequate to meet national requirements.

The main findings of the inquiry made in compliance with the resolution are:

1. That practically all of the major problems of American forestry center in, or have grown out of, private ownership.

2. That one of the major problems of public ownership is that of unmanaged public lands.

3. That there has been a serious lack of balance in constructive efforts to solve the forest problem as between private and public ownership and between the relatively poor and the relatively good land.

4. That the forest problem ranks as one of our major national problems.

The main recommendations, as the only assured means of anything approaching a satisfactory solution of the forest problem, are for:

1. A large extension of public ownership of forest lands, and
2. More intensive management on all publicly-owned lands. ***

The inquiry makes it more clear than ever before that the solution of our forest problem is one of our major national problems. ***

But, in addition, the solution is the only means for utilizing our forest and abandoned agricultural land, which constitutes more than one-third of the total land area of the continental United States. The only other possible use is for agriculture and the area needed for agriculture has been decreasing.

The solution is the only, or the best, means for supplying wood and other renewable resources. Wood is one of the natural resources on which our civilization has been built.

Under many conditions the forest probably offers the best and cheapest method available for erosion control and streamflow regulation. One-half, or 308 million acres, of the total area of forest is classified as having a major influence on watershed protection and three-fourths as having a major or moderate influence. The forest may also be the cheapest and best and in some instances the only means for rebuilding impoverished soils on millions of acres against possible future needs for agriculture.

Already one of the great opportunities for recreation, the forest can by taking advantage of improving transportation facilities be made to aid materially in solving the problem of how to use the increasing leisure time of all classes of people. Forest land is the natural and often the only remaining habitat of many forms of wild life, and the same is true of forest waters for fish. Forest ranges can support millions of domestic livestock for at least a part of the year.

The solution is the only means to stable, permanent forest industries, with a predepression value including forests of $10,000,000,000 and gross products prior to 1929 of nearly $2,000,000,000. This is also true of industries using other forest resources than timber and of a large group of other industries dependent on both.

The solution will provide an important source of employment for labor at a time when the development of labor-saving machinery makes employment a critical national problem. Our forest land in productive condition and the dependent primary forest industries alone would furnish employment for 2 million men.

The solution offers an important aid in public finance by increasing the amount of taxable property. A $100,000,000 investment in pulp and paper plants in Wisconsin could be permanently supplied by 2 million acres of productive forest.

It offers one important means for maintaining a balanced rural economic and social structure in the parts of the country which will grow timber, by utilizing all of the land productively for the purpose for which it is best suited, maintaining industries in perpetuity, and holding a reasonable part of the population in the country in a healthy, diversified rural life.

Such considerations as these make the forest problem one of the largest which the American people have ever faced, and one of the most urgent now demanding attention. ***

The most important recommendations growing out of the inquiry, for a large increase in public ownership and for the intensification of management of publicly-owned lands, are based largely on three considerations:

1. The extent to which the major problems of today center in private ownership, and the extent to which private effort on which we have been placing main dependence is failing to meet national needs, both despite a free hand and substantial if not adequate public aid. Public aid to private owners has in fact been more than twice the expenditures of private owners on their own lands.

2. The lack of any reasonable assurance based on experience that private ownership on the large proportion of the forest lands it now holds can or will carry through the essential, constructive programs, many of which must be of great size. These include placing an additional area of 191 million acres under fire protection and raising the standards on much of the 321 million acres now under protection, planting at least 25 million acres during the next 20 years, raising the area under intensive forest management during the next few decades to at least 70 and preferably to 100 million acres, and the area under extensive management to at least 279 and preferably to 339 million.

3. The belief that a greatly enlarged public ownership offers the most effective solution in the public interest and that in the long run it will be much more than self-liquidating in direct and indirect returns.

The Department therefore fully endorses the conclusions reached, that public agencies should acquire 224 million acres of forest land, including a part of the abandoned agricultural land now available, and place it under forest management at the earliest possible date following acquisition. A considerable part of this land has or will come into public ownership anyway by reason of tax delinquency. The States and their local subdivisions should take over as much of this acquisition program as their resources permit. The Federal Government should assume only that part which the States cannot carry. It is believed that the resources of the States will be fully taxed to acquire and manage 90 million acres, leaving 134 million for the Federal Government.

PRIMITIVE AREAS FOR THE MASSES

By Dana Parkinson, R. 4

Those vast empires designated as primitive areas, undisturbed by the destructive processes of civilization, will furnish solace and seclusion for those demanding relief from the whirl and noise of industrial centers. But will they? Areas of 250,000 acres, some twice that size, and a few embracing a million acres or more are receiving the hearty approval of nature enthusiasts and lovers of the wide open spaces. To reach the heart of such mammoth tracts would require 20 to 50 miles travel on foot or horseback, not to mention the return trip. Probably less than 1 per cent of the 32 million National Forest visitors have access to a saddle horse or pack string. They cannot afford it, are too inexperienced to ride that far, are physically unable, or could not get the horses if they wanted them.

The number of forest visitors who can walk such a distance and get any pleasure out of it are just as scarce. But suppose areas of from 100 to 1,000 acres were left in an unmodified state of nature, adjacent to public campgrounds. By a 15 to 30 minute walk, one could reach quiet and seclusion, enjoying all the features offered by the larger areas, except that possibly wild life and hunting would not be so alluring.

Therefore, if these primitive or wilderness conditions are to be for the masses, they should be more accessible, there should be more of them and they can be much smaller.

JOB LOAD ANALYSIS

By Lee P. Brown, Olympic

"Anyone scrutinizing an industry from a scientific standpoint can easily see many ways in which consideration of the human factor would promote efficiency *** Industrial efficiency does not propose to promote efficiency at the expense of happiness, but to produce operatives who are happier because they are more efficient". - Burke

It seems that not only Burke, but all other students, professors, engineers and exponents of efficiency are agreed that the first step in increased efficiency is analysis of the job. In other words, we cut the job into pieces like a ready-cut house, and then fit them back together again until the building is complete. In rebuilding the job, the fundamental operations form the foundation and frame, and come first, as in putting the house together on the site. Similarly, in the analysis of the job, extras, unnecessary work, effort, and waste are eliminated, just as extra boards and waste in ordinary building are eliminated by the ready-cut house.

I confess that a few years ago I wasn't very enthusiastic about the idea. It was just another job until I had worked on two or three district ranger analyses. Slowly the idea began to percolate and the usefulness of the tool became apparent. But I really didn't work up enthusiasm until I began a preliminary analysis of my own job. My diary analysis was interesting to me. It told me some things of which I am justly proud, and others that I am not so proud of. Comparing my work with the job, as defined by the handbook and manual, I measured up. Comparing my results with the work assigned to me by the Supervisor, I feel that I did my stuff. However, a study of the individual figures indicated that where a part of the work I did paid dividends, part of it certainly did not. In other words, there wasn't the proper balance between quantity and quality of the work in a few cases; and in other instances, there was too much time spent on the job for the results accomplished.

The new Manual of Job Load Analysis and Planning of Executive Work has just come to my desk. It is a temptation not to let the current work slide and dig into it. I believe it has help not only for the other fellow, but also for me. As an old Indian friend of mine used to tell me when he was expounding on the philosophies of life, its "Heap Big Medicine".

DESTITUTION USERS ON THE BEAVERHEAD

By Alva A. Simpson, Beaverhead

"Dollar Salers of the Medicine Bow", in Service Bulletin of January 30, recalls that at the beginning of the depression the Deerlodge Forest embarked on a program of allowing people to take all of the dead wood they desired from that Forest, to relieve the fuel problem for the large numbers of unemployed people in Butte. The continuation of this policy has seen the cleaning up of dead material from roadsides.

The Beaverhead has become one of the areas from which a large amount of dead fuel is being removed. From August until January, it is common to see from two to a dozen cars, some with home-made trailers, loaded with wood.

The result has been beneficial. For instance: the mass of debris along Wise River, resulting from the flood caused by the breaking of the Montana Power Company dam in 1927, has almost all been removed; insect-killed trees, of which this Forest added 16,300,000 this year, are being removed from roadsides and accessible areas; the reduction in fire hazard, alone, is worth more than any nominal stumpage value we might receive.

Administrative and Free-Use estimates increased 100 per cent this year over 1931. Administration is restricted to a friendly hail to those engaged in securing wood. We have not concerned ourselves in its disposition - we know that by far the larger per cent is used to warm the families of jobless men, and that any sold is converted into food and clothing for the needy.

Incidentally, an emergency relief road project, this fall, opened up an area of fire-killed wood from which 500 cords of fuel were taken for use on small ranches and in small towns adjacent to the area. Probably no policy has resulted in more relief or more public appreciation than the opening up of our dead timber supplies to the public.

SEEKING A FOREST SERVICE SONG

Some time ago, a Forest Service song committee was appointed by the Acting Forester. It's about time for some sort of a report from that committee, so C. E. Randall, its chairman, gives us the following, which he says we can call a progress, or lack-of-progress, report, as we wish:

The Forest Service Song Committee has as its ultimate objective the adoption, development, or promotion of a song that will express the spirit and traditions of our organization, a song that will stand for the Service as "The Halls of Montezuma" stands for the Marine Corps, or "Anchors A-Weigh" for the Navy. The PR value of such a song, as well as its value within the Service, is obvious.

The Committee realizes fully, however, that the arbitrary selection or designation of an official song would by no means guarantee its Service-wide appeal. Songs of the kind we want usually just grow, like Topsy.

There are already a number of songs more or less well-known among foresters. The most popular of these, such as "Down Under the Hill," "Alouette," and "Here's to the Pinus Dendroctonus," have certain drawbacks however as an official anthem. The "Ranger Song," to a tune from Rio Rita, has now become identified with the Forest Service in the minds of thousands throughout the country through its use for more than a year as the signature song for the radio drama, "Uncle Sam's Forest Rangers." It is a lively addition to our repertory. But since it is used with music from a popular musical comedy, we can not claim it exclusively as our own.

For the past year, Mrs. Edgerton, a member of the Committee, has been assembling and listing forestry songs of various kinds. Pressure of other duties has made progress in this work slow. It is hoped eventually to assemble a full library of forestry music and to make available to members of the Service and to the world at large a number of good Forest Service songs. This work alone, it is believed, if it will further encourage the use of suitable songs when good foresters get together, and the popularization of good forestry music, will be well worth while. The Committee feels that the selection of an official song, however, should be made by the Service as a whole, through Service-wide vote or other suitable means -- or perhaps it will be by spontaneous acclaim when the right song comes along.

Meanwhile, the Committee welcomes suggestions and information from members of the Service.

SCOTCH TAPE

By Eunice Skamser, Allegheney Forest Exp. Sta.

Two inexpensive and simple materials have proved so useful at our station that it seems well to pass the word along.

One is the Scotch Cellulose Tape, a sample of which was sent us in a circular letter sometime ago. This is an absolutely transparent tape with the patented type of adhesive used by the makers of these tapes. This adhesive is unchanged by time or weather, requires no moistening, and adheres perfectly to any surface (even cellopane) but can be taken off this surface without leaving any trace of the adhesive or changing the condition of the area it has covered. We have used this cellulose tape to cover file labels on guide cards which have to be handled repeatedly, making them more durable and saving them from soiling. It can be used for mounting herbarium specimens, and for mounting materials which are to be photographed eliminating pins and thumb tacks which are sure to show in the print. We have not tried it for such a purpose, but it seems that it could be used for attaching seed specimens to cards instead of using shellac, collodion, or other materials which sometimes alter the color and texture of the sample.

The cellulose tape is obtainable in nine colors and various widths. The price for a 72-yard roll one-half inch wide is $1.64; one inch wide, $2.66 - both subject to a 30 per cent Government discount.

The other material is the Scotch Photographic Tape which has solved the problem of satisfactory binding for lantern slides. This can be rolled around the edges of the slide, the edges of the tape pinched down on the glass, and the corners perfectly mitred, making a firm and smooth binding without the bother of cutting or moistening. The one-half inch width costs only $.82 per 72-yard roll.

Another tape is made by this company - Scotch Masking Tape. This is of brown paper and its uses are numerous.

All these are products of the Minnesota & Mining Manufacturing Company, St. Paul, Minnesota, which has branches in various cities.

YE EDITOR DISCOVERS

The Unemployment Relief Bill has been passed and was signed by the President on March 31.

In order to expedite reaching of conclusions and making of arrangements with respect to numerous questions of policy and action involved in the enrollment of men, financing of operations, etc., Regional Foresters have been called into Washington for a meeting on April 3. A meeting is also being called later in the week to include State representatives who will be concerned because of the activities contemplated by the bill outside the National Forests along the lines already covered by cooperative relations between the Forest Service and States; for example, insect control, blister rust, and measures promoting protection from fire.

The general plan, so far as is known at the time this item is being written, is that the Department of Labor will have supervision over enrollment of the unemployed, possibly each State being allotted its quota in proportion to its population or unemployed population. Men will be assembled first at camps or cantonments of the Army and will be transported by the Army to work camps as they are requisitioned by the agencies authorized to carry on the work provided for by the bill. Reference to the $30 a month maximum wage has been stricken from the bill, but indications are that this wage basis will be specified in the regulations to be announced by the President.

Relief of unemployment in cities and large manufacturing and other centers of population has been prominent in all of the discussion incident to the development of the legislation because of the spirit and purpose of the entire measure. Unemployed men who happen to live within or near National Forests will not have preference over unemployed citizens in communities remote from National Forests, according to present indications as to policy. It is not to be expected that the National Forest part of the unemployment program will resolve itself into selection of men by Forest Supervisors and other officers except as they may be authorized to act as representatives of the Labor Department. Unemployed men who wish to take advantage of the new program at the earliest possible date should watch for announcements in the newspapers, or otherwise, of places at which representatives of the Department of Labor are enrolling men to be assembled and transported to work camps on the National Forests and other classes of land involved in the legislation. The bill contemplates financing the undertaking without new appropriations at present. At the time this item is being written the details as to where the money is to come from have not been announced except that it is the intention to utilize unexpended balances in appropriations which have previously been made for public works.

The capacity of the Forest Service for adapting itself suddenly to demands of fire and other emergency jobs requiring quick organization and supervision of large bodies of men has been highly developed over the years. Some experience in quick organization of unemployment relief camps was had in the winter of 1930 and 1931, when, after a delay of nine days in releasing unemployment money which had been appropriated for National Forest work, it required only two days for us to get a considerable number of men in camps and engaged in productive work. Never before, however, has the Service been called upon to undertake anything such as the job now ahead of it. So far as the number of men and problems of organization and direction of large crews are concerned, it will be as though one or more large crew fires should break out on every ranger district of all National Forests. In fire fighting the final results and the standing of the Service depend on expert and flexible skill in so managing large bodies of men that the average member of each individual crew gives a good account of himself in terms of results produced on the actual productive job. The same is true of the organization and management of the unprecedented number of men for which the Service as a whole will suddenly have to assume responsibility. With wise leadership and able management throughout the far-flung National Forest system, many thousands of men will be given an opportunity to do productive work of lasting value and under working and living conditions which will offer to them a measure of dignity and contentment far greater than what they have been able to attain during the past months and years.

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The report prepared by the Forest Service in response to a Senate Resolution introduced at the 1st Session of the 72d Congress by Senator Royal S. Copeland was presented to the President of the Senate on March 30. It is expected that this report will be printed and made available in limited quantities. The report contains about two hundred charts and tables and will cover approximately 1500 printed pages.

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After exhaustive consideration both in the Region and in the Washington Office, the Forester has approved the consolidation of the Santiam and Cascade National Forests in Oregon and a reorganization of four National Forests lying on the western slope of the Cascade Mountain Range in western Washington, which will result in three instead of four National Forests. This reorganization will involve the Mount Baker, Snoqualmie, Rainier, and Columbia National Forests.

Material economies in administrative expenses will result from both of these reorganizations. Changes of conditions which have made these reorganizations possible include: the greater facility with which administrative officers can get around over the territory under their charge, because of increased construction of the simple roads used in administration and protection of the National Forests, and increased experience and capacity of National Forest personnel due to training and development of administrative techniques. The resulting economies are particularly necessary at this time as a means of keeping administrative expenditures within the limits of sharply reduced appropriations. The extire reorganizations, both in the Oregon and Washington National Forests, are based largely on the techniques included in and developed out of the well-known "Job Load Analysis."

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The Saguaro National Monument in Arizona was established on March 1 by Presidential Proclamation. The new Monument, which is to be under the jurisdiction of the Forest Service, was designated in order to preserve for posterity a representative stand of desert flora, including especially the Giant Cactus. It comprises 60,000 acres, located mainly within the Coronado National Forest, on the slopes of the Santa Catalina mountains about 25 miles northeast of Tucson.

WOOD AT THE CENTURY OF PROGRESS

Hollowed logs, 4 inches in diameter, 8 feet long, joined by mortise and tenon joints are used by the Chicago Century of Progress to distribute electric current around the three mile long exposition grounds. It was found that these wood ducts could be laid at half the cost of concrete ducts. Wooden manholes are also largely used. So far, about 100,000 feet of the log ducts have been installed. - Engineering News-Record.

WOODEN MONEY

By A. L. Nelson, Nebraska

One of the more enterprising citizens of Halsey, Nebraska, a few years ago, purchased two condemned box cars from the C.B.& Q. railroad. These, he cut into three sections and constructed one room cabins which he rented out for quarters. Cash being very scarce, rent money was not forthcoming, so he made an agreement with his renters to accept labor. To use this labor, he took out a free administrative use permit to thin certain areas in the Bessey plantations on the Nebraska National Forest. The renters, in arrears, were put to work. The products removed were sorted into fence posts and fuel wood. These were hauled forty miles to a farming locality and traded for corn. The corn was hauled back and fed to hogs, which in turn were sold for cash.

Thus, with wood from the plantations furnishing one of the main items of barter, he finally got his rent.

WILLIAMSON GETS MILITARY HONORS

By Geo. E. Griffith, R. 6

The Purple Heart and the Silver Star, military decorations for bravery and gallantry in action during the World War, are the treasured possessions of Francis E. Williamson, Jr., Forest Ranger in charge of recreation work, Mount Hood National Forest, Oregon. Williamson is the only Region Six officer to receive the Silver Star, and so far as known, is the only man in the Forest Service to have received both the Silver Star and the Purple Heart.

The formal award of these decorations was made at the Oregon National Guard Armory, Portland, on the evening of December 29, 1932, Major General George A. White commanding.

The official citation for the gallantry in action, Silver Star award reads: "For gallantry in action near the Bois de Montfaucon, France, September 26-27, 1918. Volunteering to accompany the assault wave of his regiment, he led with great gallantry a detachment of the attacking force, greatly inspiring his men by his coolness and indifference to personal danger, until seriously wounded and evacuated to hospital."

The Purple Heart is awarded for the wounds received in this engagement. Williamson was, at the time, Color Sergeant, 147th Infantry, 37th Division. He is now 2nd Lieutenant, Auxiliary Reserve.

After the War, Williamson took up forestry, graduating at the School of Forestry, University of Montana, in 1923. He served as Forest Guard on the California in 1921, on recreation surveys on the Gallatin in 1922, passed the ranger examination in 1923 and was appointed on land exchange work in Montana. In 1924, he was transferred to Region 6, assigned as recreation ranger on the Mount Hood at Rhododendron, Oregon, where he is at present on duty.

Williamson is a member of the Society of American Military Engineers, and a Junior Member of the Society of American Foresters.

HARD TIMES AND TIMBER USE IN R. 4

A summary of timber business in R-4 during the calendar year 1932 reflects current business conditions. The cut of timber in commercial sales was about one-third of that in each of the years 1929 and 1930 and was only 59 per cent of that in 1931. The cut under Reg. S-22 sales was about average - a little less than in 1929 and 1931 and a little more than in 1930 Free Use, however, has tripled as compared with 1929, and shows an increase of 70 per cent when compared with 1931. With all products converted to board feet, the Free Use cut in 1931 was 97,000,000 feet. Obviously, people had the time and willingness to go after their own fuel and other wood needs. - E. E. Carter.

SERVICE BULLETIN

APR 1933

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 9 Washington, D. C. April 24, 1933

COST OF LIVING

In view of the provision of the "Economy Act" whereby Congress authorized the President to adjust the salaries of Government employees upon the basis of an index of the cost of living with June 1928 as a base (limiting, however, the amount of reduction in salary to 15 percent) the whole subject of index numbers has become a matter of vital interest to all employees.

The following letter, material for which was prepared in October 1932, gives some results of a phase of forest economics which had been obtained up to that time. It is interesting both because of the originality (newness) of the comparison of price levels of stumpage and logs and other commodities and because price levels are to be of special interest and importance to employees in the future.

The Editor
Service Bulletin.

Dear Ed:

I had occasion not so long ago to call upon a rather well-known occupant of the Atlantic Building and upon entering his door was greeted by these words, as the gentleman in question threw some papers on his desk, "Steer, the whole blame world is full of figures." I said, "Nope, not yet. I have a few more here that I think may interest you." They did, and in the hope that they may also be of interest to you and your readers--here they are.

In these days of depression we are all very much concerned with what has happened to the price level of standing timber (and logs). Price in this connection may be defined as the exchange value of stumpage (and logs) expressed in terms of dollars and cents, and is the actual monetary consideration involved when quantities of standing timber (and logs) have actually changed ownership.

A price index may be defined as that which points out the ratio of prices to a constant and a price trend is the inclination or tendency of prices to proceed in a particular direction or course.

The Division of Forest Economics is endeavoring to establish price index numbers of stumpage (and logs) based on voluminous reports of actual transactions of these commodities which have been collected particularly in recent years through the cooperation of the Bureau of the Census. It is hoped that these index numbers will be comparable to the various index numbers of wholesale prices of the several important commodities as compiled by the Bureau of Labor Statistics.

The following comparisons are presented not as final evidence of the relationship between the prices of standing timber, logs, and other commodities, but as an interesting line of research in forest economics.

Seven of these comparisons have been made as follows:

1. A comparison between the general price index of all stumpage sales in the entire country, of all log sales east of the Great Plains, and the average wholesale price of all commodities. In this comparison the stumpage and log prices given are the average prices per thousand feet, weighted by the quantity involved in each year, but with no consideration given to the changing importance of the several species in the total from year to year. In a period of almost twenty years the percentage of the different major species of timber in the yearly total has greatly changed, which has unquestionably had a marked effect upon the general average. The tendency, generally speaking, has been in stumpage sales for the western species, at prices considerably lower than those received for eastern species, to occupy an ever-increasing percentage of the total. Log prices for the entire period are based on sales east of the Great Plains only.

Fully two-thirds by volume of the standing timber reported and about one-fifth by quantity of the logs reported have been sold in flat-rate or lump sum sales where it is not practicable accurately to determine the price paid for the individual species. One of the facts clearly brought out by the stumpage and log price project is that the vendor of standing timber or logs will be more apt to receive the true value of his merchandise if he takes a careful inventory of the different kinds of material and sells them as individual parts of a transaction rather than in one lot.

2. Although individual sales comprise only one-third by volume of the total stumpage reported sold and about four-fifths of the logs reported sold, very interesting results are obtained by the establishment of price trends for individual species.

The second comparison which was made is between the price index of individual softwood stumpage sales, individual hardwood stumpage sales, and the index of wholesale prices of all farm products. In computing these individual stumpage prices, the percentage of the component species has been made the same from year to year so that yearly prices are weighted according to the same percentage of the several species.

3. Similar price index numbers of individual softwood logs and individual hardwood logs (east of the Great Plains) have been compared with the wholesale price index of all building materials.

4. Comparison of the price index of northern white pine in New England with that of wholesale textile products.

5. Individual hardwoods in the States of Ohio, Illinois, and Indiana with the wholesale price of corn per bushel at Chicago.

6. Second growth southern yellow pine vs. cotton middlings at New Orleans.

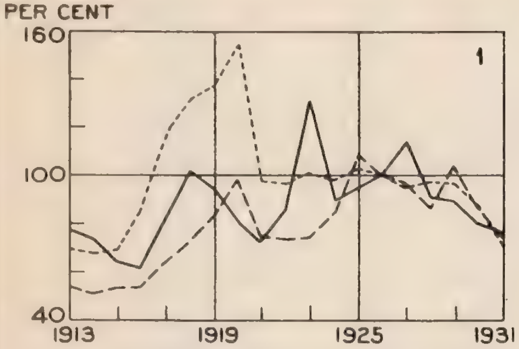
7. The stumpage price of all species in the Northwest vs. all building materials.

Space will not permit as complete a discussion of these comparisons as I believe they are entitled to; however, these thoughts are advanced for what they may be worth:

Stumpage and log prices are evidently not subject to as wide fluctuation as are the prices of the majority of other commodities. They apparently do not go as high or as low.

COMPARISONS OF PRICE INDEXES

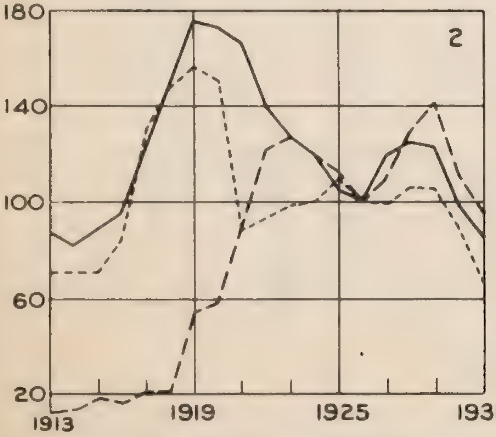
	#1			#2			#3			#4		#5		#6		#7	
Year	All Stumpage	All Logs	All Commodities	Ind.sftwd. Stumpage	Ind.hdwd. Stumpage	Farm Products	Ind.sftwd. Logs	Ind.hdwd. Logs	Building materials	White Pine New England	Textile Products	Hawds. in O.,Ill.,Ind.	Dorn per bu. contract grades Chicago	2nd Growth S.Yel.Pine	Cotton New Orleans	All Sales Pac. N.W.	Building Materials.
1913	78	54	69.8	88	13	71.5	63	55	56.7	89	57.3	...	82.4	90	75.5	82	56.7
1914	74	51	68.1	82	15	71.2	72	56	52.7	77	54.6	...	91.6	89	66.9	78	52.7
1915	64	53	69.5	90	19	71.5	75	58	53.5	88	54.1	...	96.1	61	57.1	50	53.5
1916	61	54	85.5	95	17	84.4	81	57	67.6	74	70.4	75	108.7	98	83.8	71	67.6
1917	82	64	117.5	124	21	123.0	87	67	88.2	103	98.7	71	215.7	73	134.0	86	88.2
1918	101	72	131.3	149	21	148.0	98	78	98.6	99	137.2	68	211.5	79	185.0	100	98.6
1919	95	83	138.6	175	54	157.6	110	94	115.6	116	135.3	85	210.4	125	189.2	92	115.6
1920	81	99	154.4	173	58	150.7	117	115	150.1	123	164.8	91	186.3	194	196.1	88	150.1
1921	72	74	97.6	166	89	88.4	103	78	97.4	133	94.5	70	76.4	129	84.0	73	97.4
1922	86	73	96.7	139	122	93.8	99	80	97.3	119	100.2	84	82.1	79	121.2	95	97.3
1923	131	74	100.6	127	126	98.6	109	92	108.7	129	111.3	99	108.2	94	170.5	79	108.7
1924	89	85	98.1	119	119	100.0	114	98	102.3	114	106.7	118	128.0	105	165.8	92	102.3
1925	95	109	103.5	105	112	109.8	120	99	101.7	109	108.3	136	136.7	89	136.8	117	101.7
1926	100	100	100.0	100	100	100.0	100	100	100.0	100	100.0	100	100.0	100	100.0	100	100.0
1927	114	96	95.4	120	110	99.4	88	103	93.3	110	95.7	126	116.2	107	102.4	94	93.3
1928	90	86	97.7	125	130	105.9	82	93	93.7	107	96.3	129	128.7	104	115.3	95	93.7
1929	89	104	96.5	123	141	104.9	87	102	97.1	89	93.7	136	124.0	104	110.4	99	97.1
1930	80	86	86.3	98	110	88.3	76	87	90.3	96	80.7	98	109.0	87	77.6	85	90.3
1931	76	72	71.1	85	95	64.8	68	74	77.6	76	65.3	78	69.9	84	49.2	76	77.6



— U.S. Stumpage Prices. Basis: 190 billion feet.

— — Log Prices (East of Great Plains) Basis: 12 billion feet.

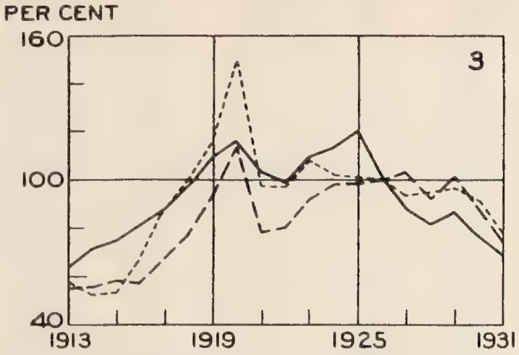
- - - Wholesale Prices of all commodities. (U.S. Dept. of Labor)



— Individual softwood stumpage prices. Basis: 65 billion feet.

— — Individual hardwood stumpage prices. Basis: 4 billion feet.

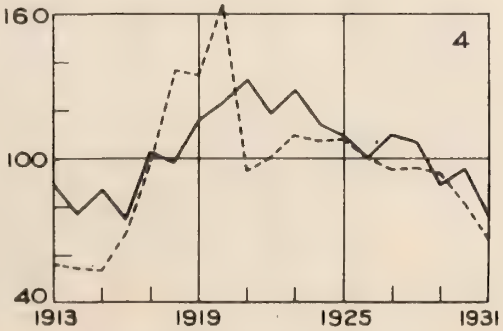
- - - Wholesale price of all farm products. (U.S. Dept. of Labor)



— Individual Softwood Log Prices. Basis: 4 billion feet.

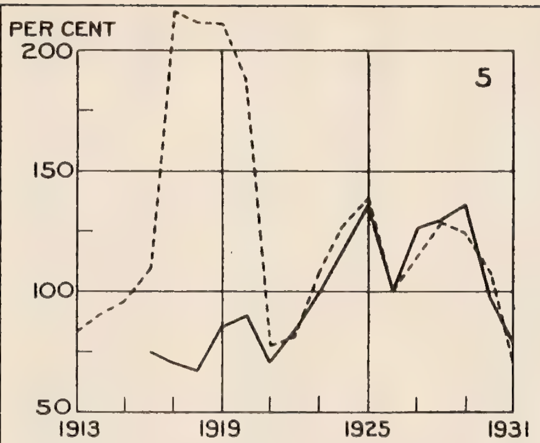
— — Individual Hardwood Log Prices. Basis: 4 billion feet.

- - - Wholesale Price of Building Materials. (U.S. Dept. of Labor)



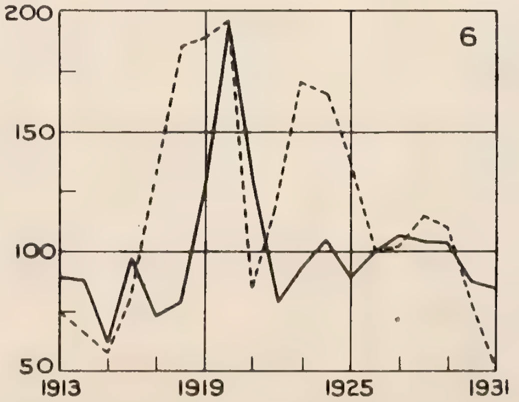
— Stumpage Price of Northern White Pine in New England. Basis: 700 million feet.

- - - Wholesale Price of Textile Products. (U.S. Dept. of Labor)



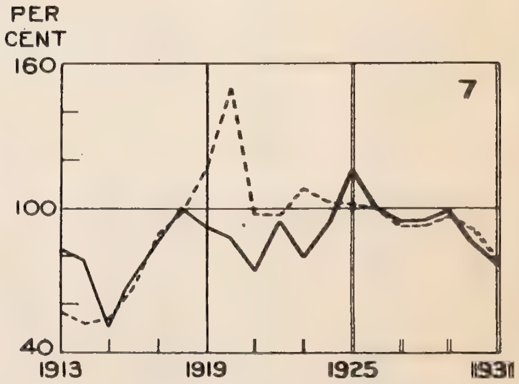
— Stumpage Price of Hardwoods in Ohio, Illinois, and Indiana. Basis: 230 million feet.

- - - Wholesale Price of corn per bushel, Chicago. (U.S. Dept. of Labor)



— Stumpage Price of 2nd. Growth Southern Yellow Pine. Basis: 3 billion ft.

- - - Wholesale Price of Cotton Middlings, Per Pound. New Orleans. (U.S. Dept. of Labor)



— Stumpage Price – All Species, Pacific N.W. Basis: 90 billion ft.

- - - Wholesale Price of Building Materials. (U.S. Dept. of Labor)

1926 = 100 % IN ALL GRAPHS

The price index of stumpage and logs (with 1926 as 100 percent) in 1931 was higher than the price of all commodities, farm products, textile products, corn, and cotton. The most striking comparison. I believe, is between the price of cotton at New Orleans and stumpage prices of second growth southern yellow pine.

The index numbers of hardwood stumpage and logs were appreciably higher in 1931 than the index numbers of softwood stumpage and logs. This condition may be partially explained by considering the uses of softwoods and hardwoods, particularly for general construction purposes; the specialized uses of hardwoods, recent trends in demand for soft and hard woods (in view of the uses to which they are put) and the available supply of the two kinds of wood. The decline in building activities for which softwoods are largely used and in which softwocds have unquestionably felt the effect of competing substitutes; the increasing demand for hardwoods for veneer, furniture, flooring, and other specialized uses into which field wood substitutes have not displaced the use of wood to as great an extent in the field of general construction; the large amount of softwood stumpage in the West and the lack of a similar reservoir of hardwood supply; may and probably do affect the price of softwoods and hardwoods.

Over the period covered by these index numbers, hardwood stumpage and log prices appear to have appreciated to a considerably greater extent than have softwood prices. This may be due to the above reasons, and may also be of interest and worthy of consideration in determining whether forestry measures (including reforestation) show the possibility of greater returns from hardwoods than from softwoods.

The index of stumpage prices in 1931 is higher than logs. This can partially be accounted for by the fact that standing timber need not necessarily be sold at any given time (leaving out of consideration abnormal forced sales). On the contrary, the owner of standing timber can, under ordinary conditions, wait until he receives what he considers a fair price. Logs represent in a general way the first step in the conversion of standing timber into manufactured products and the owner of logs must dispose of them within a relatively short time to avoid depreciation.

As the 1931 price index numbers of second growth southern yellow pine and hardwoods in Ohio, Illinois, and Indiana are higher than the average, is it unreasonable to assume that the opportunity for forestry in these regions is particularly entitled to investigation and consideration?

It must not be assumed from the above that we consider the business of growing timber to be an independent enterprise sufficient unto itself. Generally speaking, the value of standing timber as evidenced by actual prices received is affected by the same economic laws and business conditions which determine the price of other raw and manufactured commodities. There is no reason, however, why the growing of timber as a business enterprise may not prove to be more desirable when the stability of prices are considered than the production of other land crops, and we believe the index numbers presented herewith seem to indicate that such a possibility may exist.

Very truly yours,

Henry B. Steer,

Senior Forest Economist.

THE OBJECTIVES OF NATIONAL FOREST ADMINISTRATION

In order to crystallize its views in relation to the functions, objectives, and logical departmental associations of the several Bureaus handling Federal conservation activities, the National Parks Association has established a committee to consider the subject; of which Dr. Cloyd H. Marvin, President of George Washington University, is chairman. At his request Major Stuart has furnished statements regarding the functions of the Forest Service and the objectives of National Forest administration. The latter is as follows:

"On February 1, 1905, Secretary of Agriculture James Wilson defined the objectives of National Forest administration as follows:

'" * * all land is to be devoted to its most productive use for the permanent good of the whole people, and not for the temporary benefit of individuals or companies. All the resources of the forest reserves are for use, and this use must be brought about in a thoroughly prompt and business-like manner, under such restrictions only as will insure the permanence of these resources. * * where conflicting interests must be reconciled the question will always be decided from the standpoint of the greatest good of the greatest number in the long run."'

"These objectives are attained by:

"(1) Conserving capacity of soils to absorb moisture, stabilize streamflow, and permanently produce the maximum of useful organic resources, primarily through trees but also through other associated vegetation.

"(2) Enhancing economic values of resources through protection, physical improvements, and application of research.

"(3) Currently realizing full power of economic service to Nation through continued use of resources to fullest extent consistent with their perpetuation.

"(4) Stimulating essential development of industry, commerce and public welfare by allowing carefully controlled private use of areas for such purposes if not in conflict with major functions of National Forests.

"(5) Promoting sound economic and social adjustments by equitable apportionments of uses of resources between communities, industries, and individuals economically dependent thereon.

"(6) Contributing to public education, inspiration, health, and enjoyment by safeguarding and making publicly available areas chiefly valuable for their scenic, esthetic, therapeutic, and recreational qualities."

COMING OFF MT EMERINE

By Murry Skillman, Deerlodge

On June 18, 1931, Richard Richtmyer and I left the top of Mt. Emerine at about 3 p.m. A storm was brewing in the southwest. He was leading five packhorses and I was leading an extra saddle horse that Forest Haggard (lookout) rode up; total of eight horses. There was a sharp crack of thunder just as we left the peak and a few low rumbles in the distance.

We got down the switchbacks to a wide sloping ridge with not so many rocks, and were about a mile from the top, and making good time. The phone wire was about 3½ feet above our heads, and about the highest place on the line.

The first thing I remember was my feet were moved, probably when my horse got up. Richtmyer lay on his right side, back to me, and still. His horse was just getting up. One of the pack ponies was just staggering out of the trail; another just joining the bunch at the side of the trail. As I sat up Richtmyer also sat up and then dropped down again and began to roll and groan with the pain in his back. They don't make any more pain than there was in the right side of my neck, shoulder, arm and hand. I went to Richtmyer; he had three teeth knocked loose, one broke off, his upper lip cut through and a cut on his chin.

I sat him against a tree and wiped the blood off and was suprised he did not bleed any more. As I could not do any more for him I put a box on a packhorse. One packhorse had broken loose from the string, so I tied him in and also the extra saddle horse to the string.

Richtmyer got on his feet about the time I got back to him and staggered around like a drunk man. I caught him and put him on my horse, thinking to ride behind the saddle and hold him on. He came out of it enough to sit up straight, so I put him on his own horse and we hit for home. It started to rain hard about the time we came alive and rained all the way home. Richtmyer's hair was burned at the back of his head and a red line down his back showed in a burn on the back of the horse under the saddle. I had a hole in the right side of the crown of my hat about the size of a bailing wire; the hair burned in front of my right ear and a red streak along my collar bone to the chest and down the chest. All of the horses bore marks of the fall.

The lightning struck the line about half way between the peak and where we were, and burned it up entirely. A little farther away there were pieces of wire melted together. The line was kinked clear to West Fork R. S. The old tower on Emerine was wrecked. Forest Haggard, Kruse and son were in the cabin at the foot of the tower and unhurt. - From R.-1 Bulletin.

LIGHTNING STRIKES

Skillman's article above calls for the following warning: Every Forest Officer ought to know, and if he doesn't should be taught, that during a lightning storm there are at least three places where he ought not to be. (a) Near a wire fence (b) under a tree--especially a tree out in the open, and (c) near (within a couple of hundred feet) of a telephone line. The hazard is greatly increased in high country and especially on high peaks.

Lightning is the phenomenon attending the rushing together of two charges of electricity, one positive, the other negative--one on the earth, the other in the clouds above. On high peaks there necessarily is a concentration of the electric charge within a very small area, and therefore a proportionately greater discharge of higher voltage and enormously greater danger to anyone within the charged zone.

The only protection in such places is a metal umbrella such as is supplied by our network of iron wires covering all (I hope) lookout stations. This umbrella dissipates the charge, that is, divides it into a number of parts with a consequent division of the discharge strength in each part.

A lookout station can be given 100 percent protection if the metal network is properly spread out and securely connected electrically part to part, and to ground.

There is no such protection anywhere else on our forests, and any one venturing out in an electric storm, especially in high country, and approaching very near to a good conductor of lightning is simply taking a foolish chance with his life. - H.R. Kylie

SENATOR COPELAND PLEASED WITH REPORT

(From the Congressional Record of April 4, 1933)

"Mr. COPELAND. Mr. President, a year ago we were discussing the question of unemployment, and how we might give employment; and it was brought to my attention that through forestation a large number of men might be employed in a manner to add to the national wealth.

"I presented the matter to the Senate in the form of a Senate resolution asking the Forest Service of the Department of Agriculture to make an extensive and complete report on the needs of the country as regards reforestation, and what methods might best be used to bring about the result intended to be brought about by the resolution.

"The Senate adopted that resolution of mine, and it went to the Forest Service. To my sorrow, the report was, I thought, unnecessarily delayed; but, as a matter of fact, when the report came to the Senate it turned out to be one of the finest, one of the most complete and one of the most convincing reports ever presented to this body, in my judgment."

* * * *

"Mr. COPELAND. Mr. President, when I saw the report I was somewhat staggered myself at its voluminous nature; but when I studied it, as I did, I found that it contained material of tremendous value to our country just now, particularly in view of the fact that the Walsh bill has been passed, seeking to bring about reforestation. It would seem that this is a textbook which may well be used in carrying out the purposes of the measure which the Senator contended for so vigorously and so successfully."

YE EDITOR DISCOVERS

Present plans (April 13) for carrying forward the emergency conservation work program provide that work camps will be constructed and the men fed, equipped with clothing, and furnished medical attendance by the Army, which agency will also handle all purchasing for camps themselves, and the fiscal work. The forestry agencies will have complete charge of working the men in the field. The plan for obtaining equipment and materials for field work has not yet been fully worked out. Camps will, according to present plans, be of 200 man size but may contain several unit crews, each to be used on a different class of work.

The Labor Department is establishing enrollment quotas for each State. Part of the total enrollment will include local residents in and near the forest areas, to be chosen in collaboration with the Forest Service and Park Service. This will give a share of the work to men who are normally dependent on forest work.

Agreement has been reached among the representatives of the principal forestry agencies as to the primary allotment of men and camps to each. These agencies include the States as a group, the National Park Service, Indian Service, Forest Service, and other Bureaus in the Department of Agriculture. An approximate division of work quotas between National Forest Regions has been worked out for the part of the total enrollment allotted to the Forest Service.

A number of decisions regarding responsibilities for and conduct of the work have not been finally settled by the Director, Mr. Robert Fechner. It is expected that these will be made within the very near future. The project as a whole is, however, far enough along so that definite action has been started in preparation of some camps in the East.

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If one had any doubts as to the depths of tragedy or pathos created by the present widespread condition of unemployment they would quickly be dispelled by a review of some of the thousands of letters now pouring into the Forest Service as a result of the creation of the emergency work program. The letters arrive from every corner of the nation and apparently from every class of citizens. Scores of doctors and dentists are indicating great desires to enter the work. Members of the engineering profession have for months sought employment in multiplying numbers. Records of training and experience which accompany many applications recite several college degrees, the direction of many projects of outstanding importance, the past receipt of salaries dwarfing those paid in the Federal Service. All this, however, is historical; the present desire is for work of any kind. Then on the other end of the scale are men of humble position, stressing long periods of unemployment, the impending loss of homes, etc.

If the letters of application are any criteria, the emergency conservation corps generally is regarded by their writers as a heaven-sent opportunity for relief. There are no queries as to hours of employment or rates of compensation, the inference thus being that the applicants regard those points as too trivial for discussion or as having been satisfactorily adjusted. The letters considered collectively would offer a rich field for study by sociologists.

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The Kaibab National Forest was transferred to Region 3, effective April 1, without change in location of forest headquarters or personnel. The factors which influenced the Forester in making this decision were: that the Kaibab Forest is located entirely within the State of Arizona and within Coconino County; that the barrier of Grand Canyon has been overcome by the Lees Ferry Road, making the Kaibab readily accessible from the main highway at Flagstaff by auto in a few hours. Furthermore, the Forester felt that, since the road and game problems necessarily must be taken up from time to time with the Arizona State officials, duplication in maintenance of relations with the State can be avoided by the transfer. The original reason for placing the Forest in Region 4 was because of its isolation from the south rim of the Grand Canyon.

NO FREE TREES FOR FOREST PLANTING

By W. R. Mattoon, Washington

The recent action of Congress in line with the President's emergency forestry program has resulted in an increased popular interest in the subject of reforestation, particularly the restoration of idle or low-grade land to timber production by means of planting small forest trees. Many inquiries, as a result, are being received by Federal forestry agencies on how to get supplies of trees or seeds and how to reforest land. The answer is clear-cut and simple.

The Federal Government does not engage in the distribution of seed or small trees for forest or ornamental planting on private lands. Many of the State forestry departments are growing and distributing to private land-owners at cost small nursery-grown seedlings or transplants for timber production or windbreaks. In the part of this State activity involving the distribution of small trees for forest planting on farms, the Forest Service is cooperating in sharing the expense under the terms of the Clarke-McNary Law. There are no free seeds or no free trees for planting.

People should write to their respective State forester for the desired information as to the conditions under which the State distributes trees and other matters of forestry. However, in many instances the people think only of writing the Federal Government. Many letters that come to the Forest Service are referred by it to the respective State forestry departments for attention. In many other cases where the writer asks for information on how to grow small forest stock or to plant small trees, he is sent a publication on the subject and sometimes such letters are then referred to the State for further attention.

The Forest Service maintains and distributes lists of dealers throughout the country handling seed or seedlings of some 90 different species of forest trees. These are being sent out in large numbers, especially during the fall and spring planting seasons, to applicants seeking stocks of seedlings or seed in States which do not grow and distribute planting stock, to those wanting fewer trees than the State minimum (1,000 or sometimes 500), and to those desiring stock for growing Christmas trees, ornamentals, or other purposes not included in the State regulations.

HOMINY GRITS AND MOLASSES

A great many applications for Forest Service jobs of all descriptions have reached the Forester's office since March 4. Here is one addressed to an official "on the hill" from a modest fellow who would occupy the boss' chair. While no order has been received regarding the proposed change in personnel "R.Y." has taken his cue and is confining himself strictly to a hominy grits and molasses diet. He hopes to put up a pretty good fight when the show-down comes:

"What important Government Office is a ------ man going to fill under the present administration?

"I am a practical Forester. There is not a man in the United States who knows more about the forests of this country and forestry in general than I do. I didn't learn it out of books, either. I have been a Forester for twenty five years. Half of this time I have spent in the woods of -----, -----, -----, -----, -----, -----, -----, -----, ----- and ----. I have lived under the hardest kind of conditions, eating what I could when I could. Grits, sour-belly and molasses have tasted like turkey to me, about ten thousand times. I have slept in the homes of red-necks, in tents and often out in the woods with the root of a tree for a pillow. I am as hard as nails; as healthy as the finest bull in the panhandle, and with it all, I possess all the necessary business ability, from an office standpoint, and the culture, refinement and education necessary to handle the office of Chief Forester of the United States. I am an organizer, men love to work for me and every lumberman of note in the United States knows me or knows who I am. I have the actual knowledge - not something from books or college, and I am the right man, possessing every possible qualification necessary to fill the office of Forester-in-Chief. I want that place and I want you to get it for me.

"Will you do it?

"If you want me to come to Washington to pursue the matter, let me know by wire or telephone.

"I will occupy and fill the post with great credit to my country, to my state and to you.

"I expect you to put forth a most vigorous effort to get this position for me. Let me know if I can expect you to do this. Ask ----- to help you. He has known me for years. I have been a friend of-------------, his brother, for thirty years.

"I await your reply telling me that you are getting right after this for me. I am, with regards - "

BOUQUET

A United States Attorney recently, in reporting to the Attorney General on some litigation in which the Forest Service was interested in a U. S. District Court, said:

"The Forest Service witnesses made a very favorable impression on Judge ___________ because he commented sometime after the hearing on the fine type of men in the Forest Service".

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 10 Wasington, D. C. May 8, 1933

A TRIBUTE

High tribute was paid in a resolution by the Livestock Growers Association of Red Creek, Colorado, on the retirement of Ranger James J. Lowell of the San Isabel National Forest. The following extract from this resolution was read by the announcer at the close of the "Uncle Sam's Forest Rangers" program on April 13 as a salute to Jim Lowell.

"We want you to know that in all these years we have felt that you have been fair and impartial as to matters pertaining to your official act; you have been sympathetic in distress, you have been a friend, and we shall miss you greatly when you are gone. To those higher in authority who will detail your successor, we wish to say: Send us a ranger who has a practical knowledge of the forest and of the ways of men; one who can speak the language of the range and apply the principle of common sense to all things; one who can buddy with us out under the pines; one who can smile in adversity; one who has his faults, that we may love him the more - for such a one is Jim Lowell."

RINGLAND TELLS OF ITALY'S LAND USE PROGRAM

In a letter to a member of the Washington Office, Arthur C. Ringland, who is making a study of European Forestry for the U. S. Forest Service, gives the following information regarding the land use program that is being undertaken by Italy.

"In many countries the developments since the War have been marked and now have been given fresh impetus under the stimulation of the protracted economic crisis. One of the most interesting of all is under way in Italy. This, in brief, is because the undertaking is national in scope and embraces the improvement or reclamation of the land in all respects including the control of mountain streams and the checking of soil erosion through afforestation, on the slopes, control of run-off through the construction of reservoirs, irrigation and the reclamation of idle lands for agriculture or other purposes in the plains below. This vast national work known as 'Bonifica integrale' or the organization of integral land improvement projects with a view to land settlement, was inaugurated a few years ago as one of the leading policies of the Fascist regime and now is just in full swing. It is of particular interest because forestry is intimately integrated with agriculture and engineering in one great and comprehensive plan of land improvement and reclamation – therefore 'Bonifica integrale' from the mountains to the sea.

"As explained to me by officials in Rome the purpose of 'Bonifica integrale' is to provide employment for the growing population of Italy and more importantly to distribute the surplus urban population; and to make the nation as nearly self-supporting as possible. The work envisages the complete elimination of waste areas - all land must serve some useful purpose directly or indirectly, hence nearly all projects have their beginning in corrective work in the mountains and in the regulation of the run-off of mountain basins. That is why forestry plays such an important part.

"The plan in its original conception called for an estimated expenditure of 400 million dollars but it is accepted, I understand, that it will cost much more than this, and presumably too the original time for completion within 14 years and liquidation within 30 years will be exceeded.

"The entire project of 'Bonifica integrale' is brought together under a special division and Under-Secretary in the Ministry of Agriculture and Forests. This division includes, in addition to the general administration, the Corps of Civil Engineers, the National Forestry Police, and the Regional Agricultural Inspectorates. Attached in an advisory capacity are other official bodies including the Higher Council of Public Works. There are semi-official organizations such as the National Association of the Consortiums for Land Reclamation and Irrigation, the National Secretariat for Mountain Lands, and the National Ex-Service Men's Institute.

"Improvement projects are carried out either directly by the State or more generally by so-called consortiums of local landowners. These consortiums can be imposed where at least the owners of one-quarter of the area involved demand the cooperation and help of the State. Expropriation too can be enforced if in the public interest. ('Private ownership depends on capacity and good conduct from the point of view of agriculture.') The consortiums are enabled to borrow money from the Government at cheap rates - 2½ percent and from 55 to 87½ percent of the capital investment required upon the basis of plans approved by the Ministry.

"These remarks simply touch upon a national project which I propose to investigate in detail. At the invitation of Italian officials I have made preliminary plans for an inspection in March, the earliest practical date for field work in the mountains. From what I have now ascertained the problems involved touch very closely upon those at home - waste lands, soil erosion, correction of run-off and control of floods, surplus labor (unemployment), mal-distribution of population in congested centers, and their settlement in rural areas. Finally the measures of attacks:- the integration in execution of every phase of the problem, for no project is independent and localized; improvements on the plains and in the valleys are intimately related to improvements in the mountain areas. 'Bonifica integrale' is no grandiose paper scheme; it is at work and over 1 million acres are said today to be recovered or in process of recovery at an expenditure of 150 million dollars. When the project was first launched the instructions I am told included these direct words from Mr. Mussolini, 'The work commences today.' And it did."

RANGER HEILMAN'S TWENTY-FIVE YEARS

By Benjamin C. Heilman, Gunnison

In May 1907, I received my appointment as Assistant Forest Ranger, and now, after twenty-five years of service, I find myself, along with others, referred to as "Old Timer". In 1907 we didn't have the automobile, the airplane, the Regional offices, and, I almost said we didn't have prohibition, but that is off the subject. We did have the big job of lining up 150,000,000 acres of forest land for a business administration.

My first assignment was to a district on the Wasatch Forest, and I arrived in Salt

Lake a few days before R. E. Benedict, who came there to establish and take charge of the Chief Inspector's office. I worked at the Wasatch nursery, which was just being started, with Nate Fetheroff in charge, for three weeks, when I was transferred to Region Two to work on the examination of June 11 homesteads. After a year in this work I was sent to the Gunnison Forest.

When I arrived at Gunnison, Supervisor Wm. R. Kreutzer had the desks, tables, and filing cases covered with piles of correspondence and reports needing attention. He said he had a clerk coming and when she arrived these matters would soon be taken care of. The office was equipped with one Sun, one Bleckensdorfer, and one Oliver typewriter; the Sun and "Bleck" both out of order. The next day a lady breezed into the office with the announcement "I'm the new clerk on the Gunnison. Don't know how I got the job, but here I am!" Subsequent events proved that her surprise at landing such a job was justified. Kreutzer said "I will give you some letters now." By using her memory, some longhand, and a very little shorthand, she managed to get two short letters down and read them back. But when she started on a lengthy report and Kreutzer asked her to read her notes she was entirely lost; so he told her to practice up. Then he came over to me and said, "We will continue to push this stuff out with indelible pencils and carbons."

That evening, S. L. Moore came into the office and Kreutzer showed him the notebook and practicing paper the new clerk had been using, saying, "See what I drew for a clerk." Moore replied, "She has been appointed; you will have to give her a thirty-day trial." As Kreutzer had said, we continued the work with our pencils. One day she said, "Mr. Kreutzer, how do you make a comma on this thing?" He went to the Oliver, put his finger on the key, said "There it is" and returned to his desk. She pecked away for awhile, looked up, directed a smile at Kreutzer and said, "Well sir, it will sure do it!". I suppose a lot of the Forest Service work at that time was as much "Greek" to a number of us as the typewriter was to the new clerk.

I worked on the Cement Creek and Sapinero District until January 1910, when I was assigned to the Black Mesa District, which is still my domain.

Old-time cowmen and timber operators were the principal users of the Forest, and, as their use had never been restricted, they were not favorable to administration which, as they expressed it, "Interferes with our business." A half dozen drunken cowboys thought it would be a proper demonstration of their attitude to pull down and burn a trail sign. Circumstances pointed to a party that had come across Black Mesa, drunk, terrorizing tourists and tearing up camps, a few days previous to the discovery of the destruction of the sign. I went to a round-up and after the branding was done called them together and asked them what they did with the sign at Mesa Creek. Their reply was "We burned it, what are you going to do, arrest us?" I said, "No! I am not going to arrest you, but that sign cost the Government money to paint and ship to me; it took me a day with a saddle and pack horse to put it up, and we want it left there. If you will replace it with one as good or better, I will not even make a written report of it, but I will tell the Supervisor when I see him. But, I'm telling you this, I am not establishing any precedent, if you continue such acts, I don't know what I will do the next time. I may get meaner than H--l." They said, "All right, we will put up a good sign," and they did put up a better one than had been there.

I am sure no Government property was ever again molested by any of these men, and those of that party who are still Forest users are now good cooperators.

There were other numerous, similar problems in early-day administration, but, as there was no bloodshed and all hard feelings, if there were any, are gone, why bring them up here? All old timers had to meet similar conditions in the beginning, and, as these matters are now taken care of, we can look forward to a progress along the trails already blazed to a forestry which will realize the dreams of all forest enthusiasts.

A quarter of a century working with splendid men and women in an organization whose main objective is that lands set aside for forest purposes shall be kept to a maximum production, is a pleasant memory. It is gratifying to know that in the past twenty-five years, much has been done toward such a result; yet twenty-five years of experience leaves the impression that the best work to be done is still ahead of us.

Twenty-five years of doing one thing is sure to get you some place. I am about to arrive at the getting off station. In going, I am thankful that my heritage is a lifelong membership in the Forest Service family, for I shall always be one of you.

RECREATIONAL VALUE

By John H. Sieker, Harney

The suggestions of Mr. Kylie and Mr. Hall (Feb. 15 and April 4, 1932), regarding a method of calculating the recreational value of the National Forests, are interesting and worthy of consideration.

The recreational value of public land has been emphasized in recent years-- and rightly so. I would not be surprized if the National Forests were more important to the public as a playground than for all other purposes combined. This being the case, a thorough study of recreational value would be very desirable.

I cannot agree with Mr. Kylie's "expense" method. People like to travel, even over familiar, unattractive roads. I know many people who travel one hundred miles round trip to see a fifty cent cinema. The cost of the trip is, conservatively, four dollars. If two travel in the car it costs five dollars for the show and the trip. Would these people pay two dollars and fifty cents each for the show if they lived next door to it? I think not.

Mr. Hall's formula, $x=\frac{an-c}{op}$, while mathematically correct, leaves us with an unknown quantity (a) which could be arrived at only by experimenting and by applying the principles of elasticity of demand.

I agree with Mr. Kylie that recreation has a measurable value even though it is free. Recreation is free to those who use the forests. Strictly speaking it is not free any more than the use of the roads is free. The taxpayers pay for the forests and hence, although there is no admission charge, each taxpayer pays for this recreation; so, even from a strictly economic sense, there is a value.

Why not solve Mr. Hall's formula by making several assumptions--none of which are established, but each of which has some basis?

1. Since over 25,000,000 people (1/5 of our population) use the forests for recreation each year, let us assume that the recreational value offered by the forests is considered one-half average by our citizens. By one-half average I mean that the average citizen would pay for the use of the forest one-half of the average rate he pays for other recreation.

The one-half average is used to attempt to differentiate between amusement and recreation. By amusement I mean the form of recreation in which other persons take an active part in trying to amuse us; such as, the stage, movies, football. There is a distinct difference in degree between that type of recreation and that offered by the National Forests, where the individual must enjoy scenery, fishing, etc., wholly by his own efforts.

2. The total man hours (estimated from our records) spent on the National Forests are not all chargeable to recreation, since much time is spent in sleep. Considering the various classes of travelers, assume that 5/6 of the total man hours are spent in active recreation.

3. Since most people spend at least a day in enjoying the recreational opportunities of the forest and many spend a week or more, the average rate per hour must be scaled down somewhat, just as daily rates at a hotel are reduced if the room is taken for a week. Assume that the scaling down should be 40 percent.

4. To satisfy the economists a little, assume that if a small charge were made per hour for admission to the forests 25 percent fewer people would visit them, in accordance with the principles of elasticity of demand.

The next problem is to arrive at the average rate per hour that the American public pays for recreation. I do not have access to the statistics necessary to calculate this figure, but from the records that could be obtained the following tabulation would solve it:

Form of recreation	Cost per person	Attendance	Hours of entertainment

A really exhaustive survey would have to be made to get the figures for football, baseball, boxing, horse racing, opera, cinema, stage, basketball, hockey, tennis, golf, etc. A statistician could then calculate the weighted average which should closely represent what the average citizen pays per hour of entertainment. For the purpose of further calculation I will use 40¢ an hour, since I cannot get available figures to obtain an average.

To calculate the recreational value of the forest by Mr. Hall's formula, assuming that 25,000,000 people average 20 hours of active recreation in the forest:

$$x=\frac{1/2\ \overset{a}{(.40\times.60)}\ \overset{n\text{ (in man hours)}}{(25{,}000{,}000\times.75\times20)}-\overset{c\text{ (estimated)}}{(1{,}000{,}000)}}{.05}$$

$$x=\frac{45{,}000{,}000-1{,}000{,}000}{.05}=880{,}000{,}000$$

If all the assumptions are correct, citizens would pay $45,000,000 a year for the privilege of enjoying the recreational advantages of the forests. Using 1,000,000 as the expenses chargeable to recreation (here again I must estimate), Mr. Hall's formula gives us a hypothetical value of $880,000,000 for recreation.

I realize that this discussion is extremely theoretical and that with the number of assumptions made the actual figures have no value except for purposes of illustration. It does seem, however, that the method used has some justification. I can think of no other way to arrive at what people would pay for recreation on the forests than by using the average rate that people pay for other recreation as a base figure.

WHAT SOME AUTHORITIES SAY ABOUT COL. AHEARN'S "FOREST BANKRUPTCY IN AMERICA"

"For more than 30 years foresters predicted that reckless forest exploitation would bring economic disaster and financial bankruptcy in the regions whose main asset is timber.

"Colonel Ahern in his new book, 'Forest Bankruptcy in America', strikingly and convincingly portrays, with an array of cold figures, the deplorable results of this exploitation in each of the 48 states of the Union.***

"The tragedy of the situation is that behind this seeming overproduction of forest products there is an exhaustion of our forests, an inability to meet permanently the timber needs of our country even if reduced to one-third their present amount — a hardly conceivable calamity.***

"The past forest exploitation has left us not only with a depleted natural resource but with millions of acres of abandoned cut-over lands. It has brought financial ruin and embarrassment to thousands of communities in the wooded regions of the country. This land, reverted to the states or counties for non-payment of taxes, is in a true sense a New Public

Domain. We are desperately in need of a plan of what to do with this rapidly growing public domain. What is the solution? From many sources high and low comes the ansewer -- Forestry!

"Ahern's book, therefore, is a particularly timely contribution for we are now feeling the effects of a long irresponsibility towards the control of economic and social forces."-Raphael Zon, Lake States For. Exp. Sta.

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"Col. Ahern has assembled a wealth of material which conservationists will be glad to read and refer to. If his story is carefully analyzed it perforce leads to the inescapable conclusion that the forest problem in the United States is acute. But in the solution of this problem, we may find partial answer to the other interrelated vexing economic questions of maladjusted land use, tax-delinquent farm lands. and the disintegration of prosperous wood manufacturing communities.

"The forest problem can be solved adequately only if the attack is made planwise and aggressively. Delay and procrastination means further destruction of forest values; it will increase the size and cost of the ultimate job and defer the time when regular dividends in returns and benefits should come from productive forest lands." - Edward I. Kotok, California For. Exp. Sta.

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"We have come to the crossroads in this country with respect to land utilization according to the old plan -- which was use without any plan. With more than 100 million acres of the area in cultivation today seriously damaged by erosion, and the process speeding up, necessity for readjustments is acute and immediate. Unless the nation awakens to the seriousness of this menacing problem and takes out of cultivation many millions of acres too steep or too erosive for the successful growth of anything but trees or grass, there can be no possible outcome but serious physical decline of our agriculture. This is not so much a prediction as an unavoidable eventuality based on the depth of the soils of the country and the known rates of removal by erosion. Posterity can not combat this evil of prodigious waste. We must attend to it ourselves, or relinquish our claim to true patriotism and morality. 'Forest Bankruptcy in America' will be a worthy implement of combat in this fight that can not be safely postponed."-H. H. Bennett, In Charge, Soil Erosion and Moisture Conservation Investigations, Dept. of Agriculture.

YE EDITOR DISCOVERS

Establishment of 645 camps on National Forest lands has been approved under the Emergency Conservation Work Program. Of this number, 77 are located in the Eastern Region, 30 in the Lake States Region, and 538 in the six western Regions.

The only camps on State lands so far approved (April 28) are 54 for Pennsylvania, which cover the entire program for State owned lands in that State. No camp on private lands has so far received approval.

The first camp to be established was on the George Washington National Forest near Luray, Virginia, on April 17. The men for 4 camps on the Allegheny National Forest in Pennsylvania arrived at the camp sites on April 25. An additional camp is expected to be manned on this Forest within a day or two.

The entire program of the National Park Service, covering 50 camps, has been approved.

In order to aid the Army in the dispatching of men and camp equipment to the various Forests, a liaison officer for each Army Corps area has been appointed by Director Fechner. These officers are as follows:

Name	Corps Area	Headquarters
F. L. Haynes	I	Boston, Mass.
Nelson Brown	II	Governor's Island, New York City
F. W. Besley	III	
K. E. Pfeiffer, Deputy	)	Baltimore, Md.
W. P. Kramer (Pisgah Forest)	IV)	Atlanta, Ga.
L. F. Kellog (C.S.Exp.Sta.)	V)	Columbus, Ohio
John McLaren (R-9)	VI	Fort Sheridan, Chicago, Ill.
H. D. Cochran (R-2)	VII	Omaha, Nebr.
John D. Guthrie (R-6)	VIII	Fort Sam Houston, San Antonio, Texas
C. B. Morse (R-4)	IX	The Presidio, San Francisco, Calif.

These liaison officers are to assist the Army officials in filling requisitions for men; to advise the Army officials on the qualifications of men needed for different classes of work; to advise currently with Army officials on all other matters pertaining to the work upon which information concerning field conditions, character of work, and work environment may be needed; to aid the Army officials in giving talks to the groups of enrolled men about the work which they may be called upon to perform, conditions under which they will work, and conditions of camp life; to advise Army officers if need be in the routing of men from the Army assembling points to location of work camps; and to maintain such communication with the operating agencies as may be necessary to keep them informed as to Army activities affecting field operations and to secure from the operating agencies and to pass on to the Army officers such information as may expedite the handling of the work at either end.

For enrolled men, hours of work will be limited to 8 per day including travel time both ways and the lunch hour. The work days per week will be five. Supervisory and facilitating personnel employed by the Forest Service will be required to work regular Forest Service hours, i. e., 8 hours of actual work on the job, exclusive of travel and lunch time, unless the total time required for travel to and from work exceeds two hours daily, in which event the eight hour period on the job may be shortened by the excess of both way travel time over the two hours daily travel limit. The working week will consist of 5½ days.

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The United States is not the only country that is taking care of its unemployed by means of an emergency construction program. Arthur C. Ringland writes to a member of the Washington Office that "Germany has a similar system 'Freiwilliger Arbeitsdienst' Voluntary Labor Service. Last year the recruits - age limit 25 years - numbered 250,000. This year to date, 170,000. They reciive 1.60 Reich marks (40¢) in kind - for food, clothing, and shelter, and 0.40 pfennigs or 10¢ for personal use per day. The work (land reclamation, forestry, roads, etc.) does not compete with private enterprise."

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Forest values are featured in the Forest Service section of the U. S. Department of Agriculture exhibit recently shipped from Washington to the Century of Progress exhibition at Chicago.

At the forestry exhibit, the pillars of the Government Building will appear in the guise of large white pine trees. The entrance to the exhibit will be between these trees and the realistic trunk of a great Douglas fir. A huge canvas painting with lighting effects will be used in the background, adding realistic touches to the forest scenes. On the canvas, recreation, range management, watershed protection, and timber production will be shown in turn. And in a large "synthetic" stump will be presented some of the many research products of the Forest Products Laboratory. The exhibit throughout will illustrate relationships of the forests to agriculture, irrigation, flood prevention, waterpower, water supply, industry, health, education, and recreation.

Probably the most striking mechanical feature will be the project to show how the forest preserves the benefits of rainfall. One side of this project shows a burned and denuded forest. The other side is a somewhat typical piece of forest land, the soil protected by a good stand of trees and a litter ground cover. Rain descends continuously upon both plots, and its course down through the earth is shown behind glass windows. On the denuded surface the water rushes down bearing with it the debris of the cutover land, washing the soil, and flooding the lowlands. On the forested side, the rainfall is seen soaking into the ground cover and the soil below raising the water table, watering the trees and small plants in the protected soil, and maintaining clear and even flow in the streams.

Inside the large Douglas fir will be shown the four stages in the life of a well-managed forest. There is the old-growth stand of timber, the cutover forest with sufficient seed trees, next the growing stand of saplings, and finally the maturing second-growth forest ready for a second crop of timber.

Forest Products Research will illustrate better ways of using timber products, including some of the uses developed at the Forest Products Laboratory, where principles, wood properties, and processes have been studied, and methods developed which save the public millions of dollars annually.

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In place of the regular "Uncle Sam's Forest Rangers" program for Thursday, May 18, the National Broadcasting Company is presenting a special program on the Forest Products Laboratory. The program will be picked up directly from Madison, Wisconsin, and put out over the NBC's "blue" network. This program will be presented as a feature of the National Farm and Home Hour during the period 11:30 to 12:30 central standard time.

ACCOMPLISHMENT

In the R-2 Planting Report for 1932, there is a nine-word sentence about the Monument Nursery that reports a real victory. "Rootrot and damping-off were under complete control last year." A few years ago, the continuance of this nursery was being questioned because of the heavy losses from these causes. Advice from the Office of Forest Pathology of the Bureau of Plant Industry plus the intelligent and careful application of that advice caused the change, lowered the costs, and gave leads for dealing with similar troubles elsewhere. "Trained intelligence" was on the job once more, and reports tersely.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 11 Washington, D. C. May 22, 1933

THE PUBLIC WILL BE SERVED

By F. M. Sweeley, Sierra

The depression has emphasized one fact which should cause concern among Forest Service men. In spite of the economic stress, more summer home owners and guests, and what is of greater significance more campers, used the National Forests in Region 5 during 1932 than during 1931. This indicates what inevitably must happen when times become better - we shall be swamped with recreationists. It is, I believe, generally agreed that the situatiin within Region 5 is not what we hoped it would be: that our facilities (scenic roads, scenic trails, recreational set-ups, camp grounds, etc.) are inadequate to take proper care of present day use. It is certain that if we continue as at present the personnel and the facilities of the future will be less able to handle the crowds and the demands of the post-depression days. We are entering the Era of Recreation. Now is the time to plan and to prepare for that forest use which is closest to the hearts of the people.

The major activity of Region 5 is undoubtedly recreation. It seems to me that we have entertained a misconception of forestry. We have fallen far short of actively projecting recreation with the same intensity as we have the forest uses of timber, water, and grazing. It can not be denied that recreation has grown in much the same classic fashion as Topsy, while other activities, considered more as the objectives of the forester, have been administered skilfully by specialists. We have a big job ahead to catch up with recreational use and a bigger job in anticipating, actually and concretely, the obvious demands of the future. A day of accounting is coming - a time when the public will demand that accomplishment be comparable to the use. The least we can do is to apprize them of the situation as it prevails currently in order that they may be informed, and to create the public support we need.

The first thing to be done is to accord recreation active recognition in our scheme of forest management; internally we need a new concept of this forest use. The call is for trained men, fired with enthusiasm and backed by a Forest-Service-wide policy which shall aggressively demand adequate legislation and financial assistance. The next thing to be done is to initiate a two-fisted public relations campaign which will give the public the facts about recreation, particularly those facts which have to do with our failure to provide a reasonably complete recreational development.

Our stock excuse has been the lack of funds and yet we continue to pass up one means of securing money with which to obtain facilities, at least in part, for the most important phase of all - camping. Camping should be designated as a special use, for that is what it really is. This may be heresy, but we may as well acknowledge the fact that free camping is not open to everyone. All citizens contribute to the development and maintenance of camping in the National Forests but actually a limited number enjoy this privilege. Nor is it clear to me how an efficient administration can justify giving something for nothing, particularly with demands for recreational refinements and development becoming more urgent each year. Service-wide, an annual permit to camp in any National Forest should be issued and a nominal charge made. If, and when, such charge is made we can reasonably expect Congress to increase appropriations for recreational planning and development.

Recreation as an activity needs revamping to place it in line with the times. We have a whale of a job ahead not only in planning, and in executing those plans, but also in training men to realize those plans expertly - men with vision and an understanding of the tremendous opportunity for public service. We have an equally important job in public relations which shall properly inform the public about the possibilities and the needs of recreation in its broadest meaning and application.

If aggressive action is required, and none can doubt this, then Roosevelt, Pinchot, and others high in the tradition of the Forest Service have set an example of how aggressive action, based on real public need and service, can succeed.

The problem is vital, the responsibility is ours, the opportunity is here. What are we, as managers of public property dedicated to Forest Use in whatever form it may manifest itself, going to do about it?

FORESTRY SCHOOLS AND FORESTRY WORK

By Herbert A. Smith, Washington

On the conventional count of three human generations to a century, our forest schools will this spring start turning out the second generation of American-educated professional foresters; for it was in 1900 that Cornell bestowed its first degree in forestry - and upon a single graduate. Thus, R. C. Bryant led off the ever lengthening procession, as banner man of the sheepskin holders.

Now there are some 5,000 of them; and the subject of forest education has come to be important enough to win a Carnegie Corporation grant of $30,000 for financing an investigation of it, and to have the results of the inquiry given to the world in a 450 page volume, of extreme interest to all foresters.

In librarian's notation, the book is branded: "Graves, Henry S., and Guise, Cedric H.: Forest Education, Yale Univ. Press, pp. xvii, 421, 1932."

The investigation was undertaken to find out how well the schools engaged in training professional foresters are doing their work, and how they might do it better. But the study was carried out along much broader lines than this suggests. In its first chapter, "Forest Education" lays a solid cornerstone for the work by establishing, once and for all, the place of forestry as an independent profession and the claims of forestry as a science occupying its own field. The forester is not an engineer, nor a specialist in a branch of agriculture, nor an economist, nor a hybrid breed of semiscientist, semibusiness man, lacking a distinctive field and task of his own which entitles him to professional rank. "The utilization of various sciences and arts by the forester has created misconception * * *. The forester is a specialist in forest science, dealing with a distinctive and unique problem, the solution of which requires a highly organized body of science and a specialized technique." Upon this conception it is necessary to rear the structure of the forest school as an educational institution. A valuable chapter on the history of forest education in the United States follows; bringing Part I to an end

The bulk of the book is given to "Part II, The Occupations of Foresters," "Part III, The Education of Foresters," and "Part IV, Problems of the Forest Schools." A concluding part summarizes illuminatingly, for comparative purposes, the objectives, systems, and special features of forest education abroad and the training given forest officers in various countries of Europe. A meaty volume all the way through, both for foresters and for educators. And for the actively practicing forester, perhaps nowhere more so than in the part which deals with the field of employment, as it has actually worked out, and its rewards in terms of income.

Of all forest school graduates, about two-thirds are in forestry. On the basis of questionnaire replies from 57 percent of all graduates prior to the academic year 1929-30, the forest industries employ 29 percent of the men who have stayed in forestry, while the United States Forest Service takes second place with 27 percent. Other Federal bureaus account for 6 percent more, State services for 11 percent, and educational institutions for 9 percent. The rest are scattered in a number of minor groups - county and municipal service, tree and landscape agencies, consulting forestry practice, estate forestry, etc. Classified on a basis of types of occupations, 64 percent are engaged in forest administration and management, 17 percent in some branch of forest utilization, 11 percent in forest research, and 5 percent in forest education.

Out of 1,529 forest school graduate foresters who responded to the questionnaire inquiry with respect to earnings in 1929, those earning less than $2,000 made up 20 percent, nearly all of whom had been graduated within 7 years and more than two-thirds of whom had been out of the forest school 2 years or less. Another 20 percent, of whom more than four-fifths had been out not more than 12 years, were earning from $2,000 to $2,500, while 13 percent, out from 2 to 27 years, were earning $5,000 or more. Earnings in excess of $10,000 were reported by 2.4 percent (36 individuals), and in excess of $20,000 by 0.8 percent (11 individuals). Fortunately for the record, the data were gathered before the devastating effects of the depression had begun to be manifest.

Seventeen percent of the foresters from whom data on place of employment were obtained had their headquarters in places where the population was less than 1,000, and 16 percent more in places where the population was between 1,000 and 5,000; but 32 percent were located in cities with a population of 100,000 or more. Thirty-eight percent spent not more than one-fourth of their time away from their headquarters (including 10 percent who spent none), while 25 percent spent more than half of their time afield.

These are merely samples of the quality of the ore in the mine of information on the profession of forestry and the education of foresters contained within the covers of the book. Naturally, most of the space is given to the kind and amount of instruction which the schools should undertake to give, its objectives, and the educational equipment essential if the work of education is to be well done.

Preparing foresters properly for the practice of a true profession requires forest schools with adequate facilities, adequate financial resources, adequate physical facilities, and adequate educational objectives. Whether the United States is oversupplied with forest schools is perhaps open to debate, since the future requirements of the country for trained foresters is uncertain; but the number of weak schools is an undubitable ground for dissatisfaction. There are 26 collegiate institutions in the United States which offer work in forestry, and they have on their forestry teaching and research staffs an aggregate of 164 persons; but four institutions have more than one-half the total and only in six institutions do these staffs number more than five persons. A faculty of at least five experienced and competent men, each qualified to teach as a specialist in a particular subdivision of the field, is held by the authors of Forest Education essential for an undergraduate forest school; but of the 23 institutions of this character 12 have staffs of less than five men and an aggregate of only 32. A tabulated statement of the funds allotted to 24 schools for a single college year shows 3 schools with allotments of more than $100,000 and 8 with allotments of less than $10,000.

The greatest weakness in forest education in the United States is, beyond all doubt its inadequate financial support. That is something for foresters to think about, and concern themselves about. Not that the situation can in other respects be left to take care of itself. The educational task and educational problems to be grappled with in order to make forest education what it should be are of very large proportions, as the work conducted by the inquiry and now presented in published form makes abundantly clear; but that they have been so illuminatingly disclosed by this study affords assurance of swift and well-directed progress, within the limits set by financial considerations.

LET'S GROUP

By Myrtle Lake and K. Wolfe, Flathead

Campbell's "Let's Look in the Record" and Loving's "Comment" thereon present an opportunity which is too tempting to pass up. (Feb. 13 issue of Bulletin)

Here's an attempt to express our views and to suggest a plan with which both Loving and Campbell may agree. As we get it the desire of both is to simplify without loss of information essential to proper administration--the big question being just where the happy intermediate point lies.

Loving says that grouping is O.K. so long as it provides "a satisfactory investment record on which changes can systematically be reflected and depreciation calculated."

Doesn't it seem logical then that the point at which simplification or grouping must stop is reached when an average cost per unit, (which marks the real difference in the two systems) fails to satisfy this requirement? When does this happen? Our answer to this question is that it happens as soon as the average yearly costs fail to provide representative figures which can be applied to any of the individual units in the group from which the average was obtained. As extreme examples, take Campbell's 75 standard toilets as against the total conglomerate assortment which comes under the heading of "Other Structures". In the one case an average obtained by dividing the total cost of the toilets by 75 is as good a representative cost figure, applicable to each and every one of them, as we could need. In the larger group "Other Structures", however, an average cost is valueless since $25 sheds are grouped with $2500 warehouses.

If the foregoing reasoning is correct, let's group whenever grouping is simpler, provided that the average costs are as usable an index as individual costs would be. If more detailed costs are desirable from time to time let's do as Campbell suggests and get them through special Administrative studies.

On the Flathead we would like to see the following grouping: Trails, by classes; Telephone Lines, metallic and ground; Lookout Houses, by classes; Other Structures, by groups of similar standards and kinds; Fences, by types. We have set up these improvements by classes as an experiment and believe that the scheme is workable, yet simple. A separate record of the projects or miles constructed by years is necessary so that projects may be transferred to the "Wholly Depreciated" section upon the completion of the life term. This is essential since if we continue to figure depreciation on a group of projects without taking out the cost of those which are wholly depreciated, the depreciation will soon become exorbitant.

There is one point that should not be overlooked in this discussion——one which is impressed quite regularly on those immediately concerned with cost keeping on the individual Forests——and that is that no practicable system ever has been and probably never will be devised which will provide absolute accuracy. The more detailed the costs attempted the more liable the results are to inaccuracies.

STOP! THINK! CONSIDER!

By S. A. Nash-Boulden, Santa Barbara

For about three decades the Forest Service has been building up a group of loyal and trustworthy employees until today it is generally admitted that they are as a group outstanding and have the confidence of the best American citizens as well as the Congress. The Service by its high ideals and integrity has caused its employees not only to render a full day of conscientious service to the public throughout each year but it has set a high moral standard of which the employees may well be proud. A very few men may have failed to live up to this high standard but their careers have been short wherever such weaknesses have cropped out.

To the public every regularly employed Forest Service employee is a Forest Ranger. It matters not whether he carries the official title of Assistant Regional Forester or Forest Guard. He is a United States Forest Ranger and as such he is judged.

We are now placing our road equipment operators under civil service appointment. This will materially increase the number of civil service employees of the Forest Service. Will this tend to raise the present standard of our personnel or will it be difficult to hold our own? In other words, is it possible to suddenly expand the number of our regular personnel with men toward middle age and without the background and training of the regular force and still maintain or improve the existing standard?

Possibly if careful scrutiny is given these new employees by their immediate superiors in order to be sure that the mediocre or otherwise unfit are weeded out during the probational period, we may still maintain our present status, but if these men are judged only by their ability to move dirt, we are likely headed for trouble. This new group of employees must be given to understand that although their main function is to build truck trails efficiently and economically they must be capable and willing to handle improvement and fire control activities, and think in terms of fire control, as well as maintain a high moral standard.

FARM FORESTRY IN THE SOUTH

By W. R. Mattoon, Washington

In almost every county in the South there is at least one farmer with a practical understanding of the farm timber crop who has some good stands to show for his good management. Among the well-known group of Master Farmers there is a good percentage who have been "getting a good sized check for their timber every few years". The idea has been spreading during the past decade among southern farmers that forest management is an indispensable part of a well-balanced farm program. The percentage of the total farm area in woodland in the Southern States ranged in 1929 from 46 percent in North Carolina, 40 in Virginia, 36 in Mississippi, 30 in Tennessee, down to 12 in Oklahoma and Texas. The broad program of land utilization in the South during the past few years has been in favor of less acreage in field crops and more intensive cultivation and higher production per acre.

In order to maintain this present balance of woodland area and further bring it more nearly to a state of maximum production and money income, the farmers must be brought to an understanding of the basic principles of good forest management. There are two essentials, namely fire protection and conservative cutting. Much advance has been made by the farmers until probably at the present time better than three fourths of the farm woodlands are fairly well protected against fire.

The next great step in the field of education of farmers is a realization of the loss they are suffering because of over-cutting their stands. The cutting system preeminently adapted for the use of farmers is the selection method. The late W. W. Ashe was probably the first forester in the South to duly emphasize this point. He was a pioneer in showing the money loss to an owner resulting from cutting small-sized trees for sawtimber. This led him to the advisability of adopting a relatively high minimum cutting diameter. This in turn means more frequent harvesting of timber crops — a thing that the farmer above all others should do. In no other phase of good farm timber practices is there greater need than the teaching of the right use of the ax and saw whether it be in thinnings, improvement cuttings, or the final cuttings of the mature crop trees. Conservative cutting in the words of one farmer means "common sense, a sharp ax, and a thought for the future". The field of opportunity for helping the farmers of the South in rightly managing their timber lands is as extensive as the region. The need for adjustments along all lines of farming, including timber growing, utilization, and marketing with the aim of making better standards of rural living possible, offers a challenge to all foresters.

YE EDITOR DISCOVERS

Federal purchase of land in Alabama for the extension of the National Forest system to include lands in the Tennessee River drainage was authorized by an act of the Alabama Legislature approved by the Governor, April 10. The Legislature has thus responded effectively to the demands of the situation in connection with the President's proposed development plan for that part of the State. Prior to the enactment of the new law, the Federal Government was limited in its acquisition of new lands to the present exterior boundaries of the existing Alabama National Forest. The extension of authority granted, however, opens up a wide field for establishment of additional forests.

The Tennessee Legislature also recently authorized the Governor to set aside suitable State lands, reverted lands, and donated lands as State Forests. It also authorized Federal purchase of lands for extension of National Forests in the State.

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Two hundred and sixty-two State and Private emergency conservation work camps have been approved (May 11) by President Roosevelt and accepted by the States as follows:

California 38, Connecticut 12, Florida 4, Georgia 4, Idaho 31, Indiana 3, Iowa 16, Louisiana 6, Michigan 5, Minnesota 13, Missouri 5, New Jersey 4, New York 18, Ohio 6, Oklahoma 1, Oregon 10, Pennsylvania 54, Rhode Island 2, South Dakota 1, Virginia 4, Washington 24, and Wyoming 1.

Seventy-two camps on Indian Reservations have also been approved. These camps, however, will be administered independently of the Army. While seventy-two 200 man camps are specified, in actual practice there will be a great many more because the men will be divided in many cases into smaller units.

President Roosevelt has also authorized employment of 1200 men on the Luquillo

National Forest and other lands in Puerto Rico and 325 men on the National Forests of Alaska. The work in Puerto Rico is to be managed by the Forest Service, the Army to take care of the payment of vouchers only. In Alaska, all of the work will be handled by the Forest Service, including payment of vouchers.

So far, sixteen camps on the National Forests have been manned - 9 in Michigan, 4 in Pennsylvania, 1 in Virginia, and 2 in Wisconsin. The only State camps so far manned are eighteen in Pennsylvania.

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The National Land-Use Planning Committee, created as a result of the Land Use Conference in Chicago in 1931, met in Washington May 1 to 4. Among the subjects considered was a master plan for national research on land utilization designed to correlate and coordinate the activities of different Federal, State, and other agencies in relation to common objectives or within certain specific areas. The subject of physical classification of lands was considered in detail and the committee's conclusions embodied in a preliminary statement. The subject of State land use planning and zoning also received attention, as did the proposed integration of work of the land use committee with that of the American City and Regional Institute. The preliminary report of the Department of Agriculture on the Tennessee River Basin was submitted to the committee, which offered a number of constructive suggestions. Progress reports of several of the technical advisory committees also were presented and considered. The next meeting of the committee is set for the four days beginning August 28.

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A limited supply of the Copeland Report has been received in the Washington Office. The complete report consists of two volumes, totaling 1650 pages. Copies have been sent to Forest Service libraries, Forest Schools, State Foresters and to a few of the individual city and college libraries, where they will be available to the public. Separates will be printed of the following sections:

Contents. Letters of transmittal. Summary. Introduction.
Forest land the basic resource
Present and potential timber resources
Our national timber requirements
Watershed and related forest influences. A watershed protection program
The forest for recreation. A program for forest recreation
Wild life a forest resource. A forest wild life program
Research in the United States Forest Service, a study in objectives
State accomplishments and plans
Status and opportunities of private forestry
Public regulation of private forests. A possible program for public regulation
The national forests as a form of Federal aid to the States
Federal aid in organizing forest credit facilities
Public acquisition of private lands as an aid to private forestry
The probable future distribution of forest land ownership
The programs summarized as to costs, financing and needed legislation
Is forestry justified
The Indian forests
Ownership responsibilities, costs, and returns
Enlarging the consumption of forest products
Protection against fire.

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The Santiam and Cascade National Forests have officially passed out of existence, and their place has been taken by the newly created Willamette National Forest, President Roosevelt having signed the Executive Order on April 6. Headquarters are in Eugene, Oreg.

IF YOU CAN GRIN AND JOKE - WHEN

By Emma H. Morton, R.6

A Region 6 Forest officer has received the following letter of application from the ranks of the unemployed:

"Dear Mac: A couple of months work would set me rollicking with joy; three months and I'd break loose from my foundations or bust a belly-band, or something.

"Since the fall that I pried loose from your vicinity, things have been getting tighter and tighter. That is, everything except the seat of my pants and it gets slacker and slacker. And so, with Great Britain and me both off the gold standard, something must be done about all that loose hide on my neck that should, by this time, be my double chin.

"Soup, a little of it, is alright, if you like it, but too much is too much, and now the point has been reached to where it gives an embarrassing sloshing sound when I walk.

"That, Mac, is how things are, so I'm hoping that when you run your ponderous finger down the long list of eligibles, my name may be long enough to stick out around the edges.

"Don't forget the qualifications. I have engineer papers from three states for operating long-handled, No. 2 mud elevators. Strong trucks tremble and shake at the mere mention of my name, while burros fight for the privilege of carrying my pack. I can string wire like it was beads. I've wandered for miles and miles through the hills and never lost a compass and when it comes to putting out fires, my coffee pot has smothered many of them. I merely mention these achievements in case the Blank Mountain job is already spoken for and that there may be a pit latrine to dig far off in the southeast corner somewhere."

Even though some portion of the press and public have characterized us Government employees as "pigs at the trough"; dishonest, lazy, and prone (with the help of unscrupulous doctors) to take two months' vacation at Government expense, one cannot read this brave letter from a jobless man without feeling that if he has a job anywhere, paying enough to buy life's necessities, he is, indeed, sitting on top of the world.

SERVICE BULLETIN

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>
> Theodore Roosevelt

Vol. XVII No. 12 Washington, D. C. June 5, 1933

GAME PRESERVES FROM DENUDED FARM LANDS

By Marvin Klemme, Routt

One of the latest plans to help the farmer calls for the leasing by the Federal Government of large areas of farm lands which are to be allowed to remain idle, thus reducing the production of farm commodities.

If we are to go this far in the regulation of production, why not go a step farther and purchase the land outright, and then turn it into National Forests and Game or Hunting Preserves? In practically every State east of the Plains there are large areas that have been completely abandoned, and there are thousands of acres more that should, and would, be abandoned if the occupants knew where else to go. Even during normal times these lands offered only a poverty-stricken existence and were reduced annually to a lower state of productivity. This land, because of topography, character of soil, etc., should never have been used for farming purposes. At the present time these lands can be purchased for very little and in many cases can be acquired by paying up the back taxes.

In many of our Western States there are thousands of acres of excellent soil, with plenty of water available, just waiting to be developed. Some of our economists tell us that no more reclamation projects should be started for many years, because too much agricultural land is already in use and to increase the amount would be merely a contribution to over-production. Would it not be a good policy for our Government to develop at least part of these lands and settle them with farmers who are now living on gully-washed, poverty-stricken farms in the Eastern States, and put this much abused land to other uses?

The large amount of this land and the heavy expense involved make it impractical, if not impossible, to reforest all of it for a considerable number of years. However, it could be designated as Game or Hunting Preserves as soon as purchased; and as time and funds permit, as much of the area as is deemed practical could be reforested. Generally speaking, this wornout farm land is admirably suited to the rearing of all kinds of small game such as rabbits, quail, turkeys, pheasant, etc. Even the introduction of the small white-tailed deer would be practical in many instances.

This land should be acquired in blocks of sufficient size to form desirable administrative units, and, if possible, should be so located that there will be one within a reasonable distance of every citizen. In many cases it would most likely be possible to organize and manage these Preserves on a cooperative basis with the States, counties, cities and even Gun Clubs. The game should be so managed and the hunting so regulated that a unit would be built up and then managed on a "sustained yield" basis.

With the rearrangement of social and economic conditions, which seems inevitable, and the beginning of the "New Economic Era" it appears as though the average citizen will be confronted with a gradually increasing amount of leisure. For most people, it is completely out of the question to make long trips to the big game country. Why not bring the game country to them and at the same time settle some of our perplexing land problems?

A LETTER FROM THE "KOOTENAI KRABS"

Dear Editor:

There has been much recent discussion of nomenclature as used on National Forests. In this connection please allow your humble well-wisher to exercise his constitutional prerogative of free speech.

The motion that any one Forest should not have too many Deer Creeks, Big Creeks, Baldy Mts., etc., is heartedly seconded. The Kootenai Forest has, through each successive map revision, succeeded in eliminating innumerable duplications. But this business of changing names and of supplying exotic names to hitherto unnamed features should be handled with care.

During the year 1932 the Kootenai was presented with a brand new map, and it is a good map; a wonderful and much appreciated compendium of the art and technique of surveyor, topographer, draftsman, and lithographer. But, - and alas, but! When closer examination revealed the liberties that had been taken in the naming and renaming of thirty or more of our natural features there was much wailing and gnashing of teeth. We do not know who the responsible party is. Probably it is well for the peace of the Forest Service family that we don't. He must be a romanticist able to indulge himself in extensive travel, because he appears to have acquired a long list of Pullman car names, and the waiting between trips has given him time to read all the works of James Fenimore Cooper. Be that as it may, we appeal to you, Mr. Editor, to write an editorial about this, to "view with alarm," to make battle that we and others like us shall not be so cast down.

We love our Grizzly Mountain, our Solo Joe, Rampike, Tumbledown Creeks, our Pancake Gulch, our Crystal Lake. We are not jealous. We do not care how many other Forests have these same names. They may be common, insignificant, non-distinctive; but they have a commonness comparable to the insignificant, familiar faces of old friends and neighbors. They are an integral part of our daily life and work. To lose them would be like losing "an old shoe."

I ask you, Mr. Editor:

Is Brule Creek any more distinctive than Burnt Creek - just because it's French?

Is Kiokee Creek more euphonious than Coyote?

Should Ariana prove more intriguing than Mabel?

And, Mr. Editor, what does Watuppa mean?

Moreover, from the practical standpoint, we should not have names that our smokechasers and lookouts can't pronounce, or that make the dispatcher at headquarters, seeking information via No. 9 wire, think he has plugged into a war correspondent on the Manchukuo front. There are three instances on this said revised map where foreign designations have arbitrarily been substituted for names that have been in use ever since the features were known, and these instances are especially regrettable because the names were used in honor of deceased old-timers who helped build up the country and are far more worthy of remembrance than any Indian princess or sitting-bull that ever picked huckleberries on our mountains.

Such careless renaming is bad manners and poor PR. What sort of a soft answer, for instance, are we to give to a constituent who includes the following comment in a reply to a letter asking his views on duck propagation on a certain lake:

"------ my lamented friend, Gorman, who settled on his ruinously taxed place in '98, repeatedly planted wild rice, but got no results. What he did get, per a forestry map of recent vintage, was to have the creek which always bore his name - Gorman Creek - changed to Tallulah Creek. Did the ! ! ++ ?? _____ridiculous_____who did that have Tallulah Bankhead in mind, or had he come from Gawgia? Who should know!"

Well, Mr. Editor, we think there should be an organization formed to head off any further use of these strange names, or someday there will come down a general order to change all our creeks to brooks and rills, our gemlike lakes to ponds, and our trails to paths.

Very truly yours,

(Signed) KOOTENAI KRABS (Region 1)

VIABILITY OF KENTUCKY BLUEGRASS SEED GROWN AT 10,000 FEET ELEVATION

By H. L. Spencer, Gunnison

Studies by Chapman and others place the altitudinal limit for production of viable Kentucky bluegrass seed at about 1500 feet below timberline. July 31, 1927, Ratchford, Douglas, Kreuger, Clarke, and myself sowed a two acre experimental patch of this grass above Gothic, Gunnison Forest, and five years later, on August 24 and September 15, 1932, I collected two lots of seed from the heavy crop produced on this plot and recently completed a 30 day germination test of the two lots. The results are, for germination at the end of 30 days from planting, 52 percent for the August 24 collection and 44 percent for the September 15 collection. Ten thousand feet elevation is about 1500 feet below timberline for the locality.

The method used for the test was to select with the aid of a microscope 100 seed from each lot, cover with about 1/8 inch of black soil in drained flower pots and water daily. Care was taken to see that each seed counted was a filled hull instead of an empty one, but no effort was made to see that each apparent seed had a sound kernel. The outside temperature during the test was the coldest of the winter, ranging from a maximum of a few degrees below zero to 38 below, and in a dwelling not constructed to withstand the rigor of a Gunnison County winter the temperature was subject to violent changes - in fact the flower occupants of the two test pots succumbed to frost bite early in the test.

In an untallied test earlier in the winter a generous response was secured from a pinch of uncleaned seed, and the plants from the unknown number of seed counted in 24 days, when 64 seedlings were tallied. An attempt to determine how many seed have germinated since January 24 to date failed for the reason that the seedlings have branched and matted together so thoroughly as to make accurate tally of plants impossible. However, it is evident that some germination has taken place since January 24, and it is reasonable to assume that a few more plants will come up from the counted-seed tests and raise the percentage somewhat.

The time taken for germination of the two counted tests is interesting in that it gives an idea of how long it takes for the new plants to start appearing, and the time it takes for the more backward ones to show up. The first plants in each test appeared twelve days after planting. The seed was sown January 27. The dates of tallies, with number (cumulative) of plants for each lot, are shown below:

Date of tally: February-	8	9	11	13	16	20	24	26	Date
Aug. 24 seed lot collected:	7	10	12	18	30	39	50	52	Number plants
Sept. 15 " " "	9	16	20	28	35	35	40	44	Number plants

In the bluegrass seed harvest centers of Missouri seed collection is started about the middle of June, and since the seed shells out very readily after ripening stress is laid upon collecting at the proper stage. After the seed ripens and a disturbing factor such as a heavy rain, hail, or wind appears collecting is stopped for the reason that the seed are gone. In the collection of the seed above tested it was noted that the seed heads were largely frayed, and it is probable that collecting at 10,000 feet elevation should be done not later than August 1.

FISH AND GAME VALUES

By Fred W. Johnson, Shasta

Reference is made to the article "Game, Fish and Finances", in the March 13 issue of the Bulletin.

I do not believe that a statement of receipts (assuming that hunting and fishing licenses are meant) would begin to show the true value of the fish and game crop. In California for a three dollar license, you are permitted to take a limit of twenty-five trout per day for six months provided you properly dispose of them. For another three dollars you are, in most districts, allowed to take two bucks and, in addition to these, a generous limit of quail, ducks, and geese during the fall season.

These license fees do not show ten percent of the value of the game taken. A statement of the "crop value" rather than "receipts donated to States" would give a truer picture and would not involve any "States' rights" muddle which might destroy much good cooperative work that is going on in this State. The California Fish and Game Commission is one of the "very few exceptions" and is doing good work on the National Forests.

We have a much different system of marketing our game crop than European countries and it is impossible to expect financial returns from it unless we degenerate to European conditions and methods.

The public "markets" the game in California and pays the cost in hunting and fishing equipment, transportation, lodging, license fees, etc. This license fee supports the California Fish and Game Commission at no expense to the State or Federal Governments.

A statement of the value of the fish, game, and fur crop produced on the National Forests would be very interesting as well as useful.

FORM 35

By H. L. Plumb, Olympic

On some Forests it is undoubtedly possible to do away with the keeping of Form 35. When a Supervisor's headquarters are so located that he is in close contact with all of his Rangers, and where the purchasing is done through the Supervisor's office, there may be little use for the allotment and expenditure record. However, on a Forest like the Olympic, where ranger districts are located from 40 to 170 miles from the Supervisor's headquarters, the keeping of a record of this kind in each district ranger's office is absolutely essential. We have, however, abandoned the use of Form 35, and are using in its place the same kind of a record in an accounts book. The Form 35 does not allow sufficient space for writing in the names of the various firms, the cards are apt to get mislaid; and frequently it is necessary to carry forward an account from one card to another, which leads to confusion. When the accounts are put in the book, they "stay put", and sufficient pages can be left blank to provide for the larger records. An index for each account is maintained in the front of the book. The book we use is obtainable from Ogden and is called "Book, Index, 5 x 8".

Since using the accounts book instead of the Forms 35, we have had much better results. There will probably always be discrepancies between the Rangers' accounts and the Supervisor's office on account of discounts taken, charges by the Regional warehouse, etc., but our system is recommended for those who have had difficulties with the regular cards, Form 35.

ANALYSIS OF FAN LETTERS ON UNCLE SAM'S FOREST RANGERS PROGRAM

On the first anniversary of the broadcast of the "Uncle Sam's Forest Rangers" over the Pacific Coast network of the National Broadcasting Company, the actors who portray the leading characters were introduced to the radio audience and a request made that listeners write their local station expressing their views on the program and whether or not they desired it continued. In answer to this request 300 communications were received, all of which expressed a strong desire for the continuation of these dramas, and commenting on various features of the program. The following summary presents a detailed analysis of these letters:

Distribution of letters by States: California, 158; Washington, 57; Montana, 28; Oregon, 24; Arizona, 14; Idaho, 8; Utah, 5; Wyoming, 3; British Columbia, 3; Total, 300.

Distribution of letters by location: Cities over 10,000 population, 131; Towns of 1,000 to 10,000, 100; Rural districts, 69; Total, 300.

As was expected, the bulk of the letters received came from cities and towns, the rural population being known as non-writers. This does not necessarily mean, however, that country folks are non-listeners to our programs.

Signers of letters: Women, 143; Families, 81; Men, 71; Children, 5; Total, 300. Letters signed "Mr. & Mrs." or "The _________ Family" were classed as "Families". Many of the women writers also represented families. Only six letters were received from "shut-ins" and five from Forest Service officers.

General observations: 1. On the basis of signers of letters, 48 percent of the audience is women, 27 percent families, 23 percent men and 2 percent children. It is realized that these percentages are not correct because of the fact that "families" usually represent husband, wife and children, and many women signers also wrote "for the whole family". It is estimated that at least 75 percent of our audience is women, and most of these are housewives. 2. Many of the listeners are religious or have high moral ideals, some even objecting to slang. 3. Homely incidents of family life, such as Jim Robbin's inability to get to meals on time, have a great appeal to the audience; the love affairs of Mary and Jerry rank second. 4. The entertainment features of the program are most stressed by writers; 2nd, its educational value; and 3rd, its clean, moral character. One out of every three of the fans made special mention of the educational value of the program. 5. Many writers express regret that it is impossible for the men and children of the family to hear the programs. 6. The radio fans, almost without exception, express their affection and interest for the cast and stress the realistic atmosphere which they create. Many compliments are also given to the musical director, orchestra, and announcer. - From R-5 Bulletin.

HOW SOON AFTER A FIRE CAN DAMAGE BE DETERMINED?

It has long been realized that the damage resulting from a forest fire cannot be accurately determined immediately after the fire except where the destruction is complete. Few data are available, however, as to just how much time must elapse before a reliable estimate can be made. To throw some light on this question repeat tallies at intervals of one month, three to four months, and twelve to seventeen months were made on a number of experimental fires in jack pine at the Michigan Forest Fire Experiment Station in 1931 and 1932.

All plots tallied a month or less after burning showed heavy later losses in all of the smaller size classes, while the plots tallied three to four months after burning showed little or no later loss. It would appear, therefore, that three or four months should be allowed to elapse after a fire before damage estimates are made.

As a rule, trees under two feet high die at once if damaged at all, while trees over four inches d.b.h. recover if not completely scorched. Trees between over two feet high and under four inches in diameter usually die if 90 percent or more of the crown is killed. It would appear that mortality is due primarily to crown damage since in no case was death traceable to butt injury alone except where, due to repeated burning, the tree was mechanically weakened to a point where it broke off or blew down.

The above conclusions apply only to jack pine since the fire resistance of different species of trees differ. - Technical Note, Lake States For. Exp. Sta.

RANGER SEYMOUR AWARDED PURPLE HEART

The Steamboat Springs Pilot of September 16, 1932, supplies most of the following information.

Lieut. Charles E. Seymour, Forest Ranger in charge of the Gore District of the Routt National Forest, was awarded the Order of the Purple Heart by the War Department, an award made in recognition of meritorious service during the World War and bravery under fire October 5, 1918, near Montfaucon, France. Lieutenant Seymour was struck by fragments of high explosives while carrying a wounded corporal to shelter.

After serving in the Colorado National Guard, Seymour reenlisted in the 157th infantry with the rank of lieutenant. On his arrival in France he was transferred to the 126th infantry. After serving in the battle of the Meuse-Argonne, he was confined for five months in a base hospital, then sent to America for further service. After the war he served at Fort Logan, with the same rank until he was promoted to a captaincy in the reserve cavalry in 1924. In 1930 he was retired with the rank of first lieutenant.

Ranger Seymour entered the Forest Service October 20, 1923. He has served on the San Isabel, Black Hills, San Juan, Arapaho, and Routt National Forests. He is president of the Steamboat Springs Winter Sports Club, and is a member of the Leo Hill Post of the American Legion of Steamboat Springs.

This honor which has been given to Ranger Seymour will be of interest to his many friends, as well as to those people in the Forest Service who do not know him. - Region

YE EDITOR DISCOVERS

Thirty-four additional National Forest Emergency Conservation Work camps were approved by the President on May 22. With the 645 camps on National Forests approved soon after the Emergency Work bill was signed and 10 camps on O & C lands and 1 camp on the Wichita Forest approved later, this brings the total now approved to 690. Recommendation is being made for 97 more camps on National Forests, and a few more may be added later.

In addition to the 305 State and 184 private camps so far approved by the President and accepted by the States, recommendations for 266 more are pending (May 26). It is believed that this will, approximately, complete the number of such camps.

To date, 87 camps have been manned on the National Forests, 6 on the National Parks, and 19 on State lands.

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Operation tells us that the process of providing equipment for the ECW camps is again on a relatively smooth working basis. Clearance on miscellaneous equipment has been secured except for a comparatively small number of items still remaining on "residual" lists of surplus property offered by the Army and other Federal agencies. After a delay of a week on account of questions raised by the agencies supervising EC work, over 500 trucks were ordered from bids secured by the Washington Office some weeks ago. Bids will be opened on May 29 for an indefinite number of trucks from which purchases will be made as the required certifications from Federal agencies come in.

A full and complete procedure for truck purchasing has been drawn up and approved by the agencies supervising the EC work. Under this general plan an exhaustive effort must first be made to rent trucks at rates that can be considered economical in comparison with the cost of purchasing. Wherever possible trucks must be borrowed and diverted from the regular activities of the Forest Service, States, and other agencies doing EC work. When these steps have been taken, trucks may be purchased presumably without further delay upon certification of the forestry agencies that no other means of providing necessary transportation can be found. The plan of having early breakfasts and late suppers at the camps in order to enable one truck to do the work of two in moving men from camp to camp has received partial approval by Army authorities and may help considerably in permitting the EC work to be handled with reasonable effectiveness with a smaller number of trucks than would otherwise be required.

The problem of the single bit vs. the double bit ax has caused much disturbance. Weights range up to five pounds, but information as to the number available of different weights cannot be secured. A further complication is that older men who used axes in their youth often prefer the single bitted ax, while in most regions where ax craftsmanship has kept abreast of the times the single bitted ax is viewed with abhorrence. The net result is that the available stock of single bitted axes must be exhausted in one way or another before the tool which most professional woodsmen consider the best can be purchased.

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This year's report of the Committee on Forest Resources of the American Newspaper Publishers Association said in part:

"Your Committee urges upon our membership continued attention to the Experiment stations and the Forestry operations within your own state and to see that there is wholehearted cooperation at all times with the Federal Forestry service in matters of five prevention and control especially."

Because of present economic conditions, the report said, the Committee decided not to press for continuance of the full Federal forestry budget this year.

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The Central States Forest Experiment Station has for several years been engaged in a comprehensive study of the farm woodland grazing problem in the Corn Belt. In several phases of this study the Purdue Agricultural Station has cooperated most effectively. Bulletin No. 368, "The Natural Regeneration of Farm Woods following the Exclusion of Livestock," was recently published by the Purdue Station as a progress report representing the cooperative work of both Stations in this phase of farm woodland management. Copies of this bulletin may be obtained by writing Purdue University Agricultural Experiment Station, Lafayette, Indiana.

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The "New Deal" in silks, according to a Washington department store advertisement, are "Reforestation Prints." They are "beautiful, original, and linked to one of the most important phrases of the National Program," says the advertisement. "Dresses of Reforestation prints will have a prominent place in every smart feminine wardrobe - not only because of their timeliness and deep significance, but because of their exquisite beauty." Apple tree, linden tree, and birch tree designs are offered.

"THE MILLS OF THE GODS--"

Region 5 never has denied that it has more summer home special use permittees, and more fraudulent mining claim locators, than any other two Regions combined, nor that there are certain inherent incompatibilities between the two. There are several subjects that can inspire Lou Barrett to flights of impassioned oratory, but the nefarious practice of some rare metals expert who slaps a bunch of locations down on an intensively developed summer home community can be depended on to stimulate some of the finest and most stirring passages. But as time marches on it intermittently deprives Lou of some of his pet causes of high blood pressure. The most recent instance of this character is reported in the March 31 issue of the California Ranger as follows:

"An important precedent was established by Federal Court decision in the case of U. S. vs. Lillibridge et al on the San Bernardino Forest.

"This case involved the filing of mining claims on developed special use sites near Lake Arrowhead. While the court held the claims were invalid through lack of discovery, the Judge further held: 'The permits for summer homes, public camp grounds, resorts, and other recreational sites, issued under the Act of June 4, 1897, and the Act of March 4, 1915, upon the special use areas, being prior in time, take precedence over the subsequent mining locations, and said mining locations are invalid.'

"This decision gives protection to our special use policy, which has been lacking until now, against fraudulent mining locations." - L. F. Kneipp

THE RESULTS OF RESTRICTIVE POLICY IN SALES

The cut of National Forest timber in the calendar year 1932 in sales and land exchange cuttings totaled 459,723 M feet, which is 27.8 percent of the comparable cut in the fiscal year 1930, 1,655,000 M feet, - the crest of National Forest timber output. For sales alone, exclusive of timber cut in exchange cases, the reduction was about 1 percent more, or to about 27 percent. In other words, in 1932 exchange cuttings constituted a little larger proportion of the total cut, but not enough so to change materially the percentage of reduction in the total cut.

The restrictive policy on new sales and the liberal policy in granting extensions of time during the depression have resulted in a reduction in the cut on National Forests, including material for use in round, split, or hewed forms, in nearly the same proportion as the reduction in the production of lumber in the United States. The preliminary estimate of lumber production in 1932, made by the National Lumber Manufacturers Association, is approximately 9,500,000 M feet, or between 25 percent and 26 percent of the production of 36,886,000 M reported by the Census for 1929. - E. E. Carter

SERVICE BULLETIN
CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
Theodore Roosevelt

ol. XVII No. 13 Washington, D. C. June 19, 1933

ANOTHER ANNIVERSARY

By E. N. Munns, Washington

Who shall say when the idea of forest experiment stations in America was first coneived?

Hough, in his 1877 "Report upon Forestry," describes early experimental work at mherst as follows:

"With the view of studying the laws that govern flow of sap in our American forest rees, a series of experiments was begun, in the spring of 1873, at the Agricultural Colege at Amherst, by its president, Wm. S. Clark, and associates, which have led to very ineresting results. Several mercurial gauges were provided and attached to trees, which were apped and connected, so that the pressure of the sap could be read upon a scale."

That a series or system of forest experiment stations should be provided for the nited States was one of the points made by Egleston in the Annual Report for 1883. The ollowing is from the 1883 Report (pp. 458-59):

"It would greatly aid in the dissemination of information in regard to trees and do uch to encourage tree planting if there were established in different parts of the country orestry experiment stations, or test plantations. These stations should consist of several undred acres of ground each. They should be, as to soil and situation, of the average haracter of the region in which they might be located. They should consist, in part, of rees already grown as forest, where the effects of pruning and thinning could be tested nd any experiments tried which might show how existing forests may be improved. On other ortions of the ground all experiments in regard to the various modes of planting and cultiating trees should be tried. The best methods of gathering and storing seeds should be scertained. The effects of irrigation should be shown. The value of wood of different rees, for fuel or for use in the arts, should be ascertained. The climatic range of trees hould be ascertained also by the cultivation of a great variety, not only of indigenous, ut also of exotic trees. To make such experiment stations most useful, we might well have ne in every State. The time will come, undoubtedly, when there will be one in every State. ut now there should not only be one at the Capital, but others also in the eastern, northrn, middle, southern, and western portions, and in that peculiar region, the Pacific."

However the idea may have originated, it seems to have won administrative approval or the first time in 1908. In Research files is preserved the following memorandum:

SS May 6, 1908

MEMORANDUM FOR MR. PINCHOT:

In accordance with your instructions of December 11, 1907, to work out a scheme for inaugurating forest experiments on the National Forests, I have the honor to submit the following plan for the creation of Forest Experiment Stations.

Respectfully,
Raphael Zon

On the memorandum is penciled this note: "June 1. I am for this with some changes.- G. P."

The following paragraphs are taken from Zon's plan:

"It is manifestly the duty of the Federal Forest Service to take the lead in the research work of forestry as it has taken it in the administration of the forests. This has already been recognized to some extent by the organization of scientific offices in the Service. With the general tendency of the present policy to distribute the work of the Service among field offices, and to retain the control and supervision in the Washington office, there can be found nothing inconsistent in the step toward the establishment of forest experiment stations."

"The purpose of such stations will be to carry on, on areas segregated from the usual business enterprises. experiments and studies leading to a full and exact knowledge of American silviculture, to the most economic utilization of the products of the forest, and to a fuller appreciation of the indirect benefits of the forest. Each station should be allowed an area sufficient for the proper handling of short-period experiments, for experiments requiring a number of years, and for the maintenance of model forests typical of the silvicultural region. These areas will furnish the most valuable, instructive, and convincing object lessons for the public in general, for professional foresters, lumbermen, and owners of forest land, and especially for the technical and administrative officers of the National Forests. They should be made the meeting grounds for Supervisors, Rangers, and Guards, where demonstration may be given for the education of these men, and an active interest stimulated in the technical side of the forest work -- an interest which could not be engendered by any amount of literary or oratorical effort."

The cost for the initial station was figured at $35,160.

"This amount, $35,160, is almost exactly equal to the amount spent during the current year for a single experiment - the disposal of brush on the National Forests - an experiment which has been carried on without sufficient system and control to make the results obtained either definite or valuable, except in the most general way."

PLANNING EXECUTIVES' WORK AND MAKING THE PLANS WORK

By J. F. Campbell, Fremont

Attempting to manage a business without a plan is comparable to trying to erect a skyscraper without specifications. It is scarcely conceivable that any successful executive works without a plan; he may not put it on paper but he has it nevertheless.

The building contractor has his blueprints and specifications. We use Job-Load Analyses and Trip Plans--the same idea but different in form. However, our purpose was not to justify work plans, but rather to support the advice of one writer who said: "Plan your work--and work your plan".

The new manual by Loveridge, "Job-Load Analysis and Planning of Executive Work" contains much valuable information concerning this subject and some excellent suggestions for making the plans work, and it is commended to those interested in executive planning.

Confidence and a favorable attitude are most important in working the plans. Probably there are a number of equally good ways to secure the proper attitude on the part of the men using the plans. Following is a method used in one case:

The Supervisor in taking up the matter of work plans with his force stated emphatically at the outset that the work plans were not something to be written and filed until time for revision but that they were to be regarded and used as working tools. He felt warranted in putting it this way since he entertained no doubts about the feasibility of preparing plans which could be followed to a large extent.

Confidence in the plans began with the revision of Part I-- the Job-Load Analysis. At the start each man was reminded that the plans were to work and that therefore the revision must be made most carefully. The job consumed, the first year, about four days on a ranger district. It was done jointly by the District Ranger and Supervisor. Policies and objectives were stated; desired standards discussed and agreed upon. Thus, before a job description was written the two men, by conference and joint investigation, reached an agreement as to what the description should be. New Parts II were made up and, using a route map such as is described on Page 15 of the new Planning Manual, the jobs were assigned to trips.

Trip Plans, Part 3, were not finally written at that time. This was considered particularly important from the standpoint of building confidence in the plans. It eliminated the common objection to trip plans that "they are written so far in advance that a man has to be a prophet to make one." Parts 3 in their final form were prepared by the Ranger but he was required to submit them to the Supervisor for approval a week in advance of the month for which they were written. This idea is touched upon in the second paragraph on Page 49 of the Planning Manual . Unexpected and hang-over jobs could be provided for and, if really necessary, scheduled jobs of low priority could be dropped. Another advantage in preparing trip plans in this way is that the monthly follow-up reports are relatively easy to prepare, since departures from the plans are reduced to a minimum, thus eliminating the necessity for preparing explanations of one kind or another.

Upon completion of the revision the Superivsor let his Rangers know that he regarded the plans as contracts and that he would regard any unwarranted departure from them as a breach of contract. At the same time, he made it clear that he was not requiring a slavish adherence when good judgment or common sense dictated otherwise.

It was felt that confidence in the plan would soon give way to indifference unless there was regular and adequate follow-up. The form of follow-up used is shown on Pages 54-57 of the new Planning Manual. To the follow-up copy of the trip plan, however, was pasted an extra set of time columns. This was entitled "Actual Time", and actual time requirements for each job as well as its proportionate share of travel time was entered from the diary at the time Form 26 was prepared; this in addition to the total trip time. Through the critical use of this simple record the time budgets gradually became more accurate and therefore useful in subsequent revisions.

An important point, and one that should be emphasized, is mentioned on Page 45 of the Planning Manual under "Synchronizing Trips". There is a great temptation at times for the boss to "bowl the plans over" for some reason or other. The boss should think a long time before interfering with the plans, for if he does not respect them certainly the Ranger cannot be expected to.

Whether or not the supervisory analysis (Pages 132-186 Planning Manual) has been completed, job analyses and work plans can be made for the staff men. Suppose a staff man is transferred to a forest where the system and methods of handling the work are different from those in use on the forest from which he comes. Naturally the new man wants his job described and his responsibility and authority defined. What better method of description and definition can the Supervisor employ than to sit down with his man and prepare Part I of the plan. Such plans are usually appreciated by the staff man. They actually increase his production because he knows what his duties and responsibilities are, and relieve the Supervisor of constant detailed supervision. Part III for the supervisory force will contain more non-field work than those for the ranger force. The list of non-field jobs often required more space than the description of the various trips. However, the inclusion of the office jobs has proved itself well worth while not only as a reminder list but also to round out the time studies for analyses purposes.

FUELWOOD IN THE MIDDLE WEST

By L. F. Kellogg, Central States For. Exp. Sta.

The accelerated use of fuelwood during the past winter in Nebraska (see Service Bulletin, March 27, p. 8) is not peculiar to that State alone. Extensive cutting has been going on throughout the Corn Belt. In January and again in March of this year, trips by train and by car gave a cross-section view of the greatly increased cutting of wood for fuel by the farming and town populations, during the winter.

Apparently all species are being used, regardless of relative fuel values. It has been commonplace to see the trees removed or being cut along fence rows, volunteer trees on which fences are frequently hung. In other cases woodlots have been culled for smaller trees, suitable for "buzz wood." In other instances large trees have been felled, and the limb wood, easiest to handle and work up, has been utilized but the main stem left intact. Oak, hickory, sugar maple, ash, and beech have all been used. In central Iowa and the prairie section of Illinois, fast-growing species, such as silver maple, cottonwood, willow, elm, and boxelder are commonly found around farmsteads and also as yard and park trees within small towns. In many cases these yard trees have been felled and worked up into wood. Poor fuel is better than none.

The economics of the trend is not difficult to find. Wood of this character has brought $2.50 - $3.50 per cord this winter in central Iowa. Cheap low-grade coal from near DesMoines cost $4.00 - $4.50 per ton, and better quality from Illinois and Kentucky cost considerably more. For the last two years much fuelwood and fence posts have been cut on shares, particularly in northern and northcentral Indiana.

It is expecting too much of the human animal to anticipate that the past winter's use of fuelwood will stimulate him to replace the trees cut, or to plant additional groves for future emergencies. The recent onslaughts against the osage orange hedges in the prairie section are proof in point. That which a previous generation toiled to establish, this generation tosses aside, or else uses (if need arises) as a matter of course.

SEVENTEEN YEARS AGO

The following quotations are taken from an address by Austin Cary delivered before the Society of American Foresters February 10, 1916:

"As Government employes, and back of that from our educational history, most of us are to some extent separated from the run of our countrymen. We are in a friendly organization; the pay check comes regularly; a type of mind that is not the most common one caused us to gravitate here. This might lead to one-sided development and lack of appreciation of outside things and the life of the common man. The scramble of ordinary American life might, in fact, get to look unattractive and sordid. I do not assert the fact, but I say there is that possibility. And if such a thing should come to pass the result would be bad, for the duty incumbent on men in our position, the thing we are here for, is to serve the public.

"Sustained yield is a prominent and central idea in forestry literature. It came over from Germany 25 years ago in full strength and vigor, but contact with our own unstable business conditions has moderated it. For immediate application it has, in fact, pretty nearly thinned down to the idea of the value of permanent industry.

"What we carry out for a long time to come will not be the forestry of the books altogether or even mainly, but that it will be free, new United States forestry, guided for the most part by economic conditions. That seems to me inevitable; if so, it is important that the fact be clearly recognized; as far as I myself am concerned, I think the work will be all the more attractive because not exactly what we first conceived it.

"The picture in mind is of forestry, not a cult, or the possession of a group only, but a great enterprise of our people at large, entered on freely and with full understanding, in accordance with our genius and institutions, gaining gradually as occasion and necessity arise. In the end our forestry and our lumber industry will become one."

The reader would need look a long way in forestry literature to find more human forestry.

Many will not agree with all of the philosophy that is contained in the address but all open-minded men interested in forest policy will find it stimulating and timely in this 17th year after it was written. It is published in the March, 1916, issue of the Journal of Forestry. Look it up and read it. - Fred Morrell

HOW TIMBER IS HELPING SOUTHERN FARMERS

By W. R. Mattoon, Washington

The farm woods are helping notably in building, repair, and construction on the farms of the country. In the South there is a return to pioneer ways. Logs, poles, and split shingles, or "boards", are practically the only materials used for making many new houses, barns, sweet potato curing houses and sheds. Sticks and mud make the chimneys. Many small utensils and simple implements are being made of wood.

The fertilizer of the South in the old days came from the woods. It was either raked and spread on the fields, or more generally used in place by clearing off the trees. Repeatedly, I have heard that on the old ante-bellum plantations of the Carolinas, Alabama, and Mississippi, carelessness by negroes in letting fire get started in the woods meant a very severe punishment. "Making new land" is still standard parlance anywhere in the South.

Such clearing up of timber to utilize the nitrogen, phosphoric acid and potash in the litter and humus has been going on at an increasing rate since 1929. In the stress of family needs, it seems to the landowners as fully justified. Based on considerable observation I believe that a good share of the timber has been utilized on the farm or sold as fuelwood, crossties, sawlogs or pulpwood. Considerable has undoubtedly been sacrificed, or in other words burned on the ground. This depletion of timber stands calls for aggressive action on the part of all foresters and forestry agencies to do their utmost to get young stands started on the lands that are being abandoned. For future rural prosperity, all age classes of trees are absolutely necessary. The means are protection and restocking naturally or by planting. Herein lies a subtle fallacy that prevails widely through the South, namely that fields "turned out" will quickly come back in pines. They did reforest well 20 to 40 years ago, when there were many scattered old "forest" pines which threw quantities of seed from their 100-foot high crowns. Today we are getting adequate young stands only along the margins of "fields" while the rest of the land comes up with only a few scattered pines and plenty of weeds or broomsedge grass. Foresters, of all people, should not permit themselves to be blinded or misled by the notion which inherently persists from the old days. The situation should be a real challenge to them to get communities to visualize their future needs adequately in the characteristic look-ahead manner. The rural community sorely needs the forester's help in order to provide for a future timber supply.

In the timber belt of east Texas in November 1932 fuelwood was moving in quantity by rail and truck to the towns and cities, and another vast amount was ranked up or in piles at the farmers' back doors. The price of natural gas had not come down, resulting in a sweeping return to wood for fuel. In Winn Parish (county) Louisiana, according to reports, the Court House obtained a full year's supply of wood ready for the furnace, at a total cost of one-month's gas fuel bill.

The same situation prevails practically in every Southern State. The farmers are cutting and using wood for fuel and keeping the cash at home. The value of home-grown wood for fuel is scarcely realized by farmers, but taken as a matter of course, like the sunshine. The average southern farm requires 15 cords of wood for fuel yearly. In 1929, as shown in the 1930 Census, the farmers in the twelve Southern States cut 16,800,000 cords of fuelwood from their farms. With a farm value estimated at $4 per cord, this meant a total of $67,200,000 to the Southern farmers.

YE EDITOR DISCOVERS

Two companies of the Civilian Conservation Corps stationed on the Allegheny National Forest in Pennsylvania completed, on June 3, the planting of a million trees - the first million trees to be set out under the Emergency Conservation Work Program in Region 7. Since the spring planting season has drawn to a close, no more trees will be planted until next fall, when more planting will be undertaken in the National Forests in Pennsylvania and West Virginia.

About 1200 acres of burned over lands on the Allegheny were planted. The species used were Norway and white spruce, and Norway pine.

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Armed with appointments which give them power of immediate arrest wherever they may be traveling in the State, two thousand public-spirited Montana citizens will again wage war this summer on the careless smoker and camper, as well as the incendiarist. Last year this Volunteer organization was a valuable factor in reducing man-caused forest fires on the timberlands within the State. Among the first to accept appointments were Governor Frank Cooney, Hon. Scott Leavitt, and O. S. Warden, Chairman of the Montana Highway Commission.

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A meeting, of the National Forest Reservation Commission was held on June 9. This was the first meeting at which a program of land purchases was presented to the new commission. The approved program amounts to 443,908 acres. In order to expedite the purchase of the remaining land within the 42 existing units, it will probably be necessary to hold meetings of the commission at least once a month. The members of the commission are very much interested in the work and, although Congress probably will not be in session throughout the summer and fall, have indicated their willingness to attend meetings when necessary.

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On May 31 a written statement was transmitted to Mr. Fechner, Director of the Emergency Conservation work, raising the problem of extreme dependence on hand work in truck trail construction, with resulting low accomplishment in miles of truck trail, as against a moderate purchase of trail builders, with resulting large increase in miles of truck trails to be expected from the Emergency Conservation camps.

We have been building truck trails so long that the public in and around our far-flung National Forests has a pretty good idea of the mileage we normally produce from a given sum of money. If the policy of hand work were strictly adhered to, our customary ratio of accomplishment to expenditure or to man-days employed would be so low that the inevitable criticism would be hard to answer.

In order to place a definite proposal before Mr. Fechner, it was suggested that he authorize the purchase of 250 tractor-trail builder units. This would largely free the man power of the truck trail camps from work on which hand labor is extremely ineffective, and permit such man power to apply itself to clearing and other work for which hand labor is appropriate.

On June 6 Mr. Fechner approved this proposal and bids are now being circulated. Previous efforts to rent equipment of this kind have resulted only in offers which would repay the owner from 60 to 85 percent of the cost of his equipment during the first season or during some period of guaranteed use. The resulting rental rates per day or per month would be so high as to invite criticism which could hardly be met. Purchase of a moderate amount of such heavy truck trail equipment seemed preferable to rental and this solution of the matter has been approved by the Director of Emergency Conservation Work.

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To date (June 7) 267 Emergency Conservation Work camps have been manned on the National Forests, 15 on the National Parks, 92 on State lands, and 24 on private lands.

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A suite of furniture made of willow tree sprouted in a beauty parlor at, appropriately Big Spring, Tex. Despite two coats of heavy yellow enamel, sprouts as long as 6 inches sprang from the willow and bore leaves, according to a press dispatch. The furniture was about six weeks old.

CALCIUM CHLORIDE AS A FOREST FIRE RETARDANT

Although leached out very readily by unusually heavy precipitation, applications of calcium chloride in either dry or solution form have a limited value as a forest fire retardant. Because more even effective distribution of the chemical can be secured when solutions are used, this mode of application is preferable to the use of the chloride in the dry form. It is believed, however, that this condition could be remedied somewhat if the chloride were obtainable in form of a rather fine powder. Very little loss, by falling through coniferous duff and matted grass, of such material would take place if the power were applied early in the morning when dew still adheres to the combustible materials. Along railroad rights of way and fire lines, where the regrowth of vegetation must be prevented, the chloride unquestionably has a distinct value. Because of the slowness with which calcium chloride absorbs water from the atmosphere when the air temperature is very high and the relative humidity is very low, its value is practically nil on actual fires. - From a report on "Experiments with Calcium Chloride as a Forest Fire Retardant" by Paul W. Stickel, Northeastern For. Exp. Sta.

ANOTHER CHALLENGE FROM THE GOLDEN GATE

Implying that the answer is already evident and that the inquiry is merely a polite concession to the proprieties and conventions, Lou Barrett wants to know whether there is any other National Forest in the United States that can show a land exchange record surpassing that of the Shasta National Forest. To drive the nail through and bend it over on the other side, he adds that in addition to the figures submitted the Shasta now has pending a land for land exchange involving 45,000 acres in all. Are the other Regions going to allow Region 5 to get away with another palm of supremacy, or will one of them come forward with a showing of accomplishment that will make the Shasta look like a 5 and 10 cent store compared to Marshall Field & Company so far as land exchanges are concerned? The record on which Lou bases his defiant query is:

Up to December 31, 1932, the exchange business of the Shasta National Forest was as follows:

Land for land 3,468.36 acres acquired 230.03 acres selected (Shasta)
10,400.55 " " ? " " (from other Forests)
(Note: State of California and Piedmont Land & Cattle Co., each case affecting several Forests so no direct ratio can be set)
Land for timber 121,082.22 " " for $285,897.32 worth of timber average value $2.36 per acre.
Total acquired 134,951.13 acres in 17 exchanges
Approved cases awaiting action by proponent or Interior Dept. 7,822.59 acres on 3 exchanges
Examination started on 84,000 acres with preliminary offer of $1.00 per acre.

There have been sold and cut from the acquired land 8,616 M feet of saw timber, 83 cords of wood and 400 Christmas trees, with total receipts of $16,457.05.

It is expected that within 50 years, timber sale receipts from these lands will have paid for them.

In addition to this, grazing receipts should nearly cover fire protection charges.

WISCONSIN WINS

The R-9 Planting Report for 1932 states that the crop of white spruce cones in the Lake States was unusually good. At the request of the State of Wisconsin, 200 bushels were purchased, delivered at the Cass Lake extractory at $1.50 per bushel, an unusually low price. The seed yield proved to be unusually high, about 1¼ lb. of clean seed per bushel of cones instead of the half pound which previous experience indicated might be expected. Although the State of Wisconsin had only ordered 100 lbs. of seed, the State officials gladly accepted the entire yield, "particularly since the total cost was no more than they expected to pay for 100 pounds."

The seed yield per bushel of cones was highest with the Superior cones (of course).

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

ol. XVII No. 14 Washington, D. C. July 3, 1933

PRESIDENT ROOSEVELT'S EMERGENCY CONSERVATION WORK PROGRAM

- A Summary -

By R. F. Hammatt, R. 1

Accepting the Democratic nomination for the Presidency, Franklin Delano Roosevelt aid, in part --

"Let us use common and business sense ****. We know that **** means of relief, both or the unemployed and for agriculture, will come from a wide plan for the converting of any millions acres of marginal and unused land into timber land through reforestation **."

"In doing so, employment can be given to a million men. ****."

There is every reason to believe that the then President-elect was familiar with well uthenticated facts, available here and abroad, which led to the conclusion that the forst property of the United States (public and private) might, if fully productive, provide he equivalent of full time work for two million persons.

On March 21, 1933, just 17 days after his inauguration, the President acted. Congress eceived his message proposing legislation to help relieve distress; to build men; to accomlish constructive results in our vast Federal, State and private forest properties.

Ten days later the Congress had enacted that legislation. On April 5 Robert Fechner was ppointed Director of Emergency Conservation Work. His Advisory Council (one representative ach for the Secretaries of War, Labor, Agriculture, and Interior) was formed. Immediate inancing was provided from existing unobligated balances, and the President had requested hat matters affecting size of camps, scope of work, etc., be submitted for his personal pproval.

On April 10 the first quota (of 25,000 men) was called. By April 18 the first forst camp (near Luray, Virginia, in the George Washington National Forest) was occupied. On pril 22 the number of men to be enrolled was increased to 274,375. On May 11 an additional nlistment of 25,000 War Veterans was authorized. By June 30 more than one-quarter of a illion men were in forest camps.

Behind these men lie months, sometimes years, of enforced idleness. Privation and unger have not been uncommon. Many of the men have been forced to accept charity.

Ahead of them lie six months of worth-while work; an opportunity to re-establish normal elations with life, to recreate their own faith in the future as well as the faith of relatives and friends in the men themselves. And an opportunity to send home, each month, up to $25 to help those who, without work still, are less fortunately situated.

Upon foresters depends, now, the outcome of the project. For the men, most of them willing and eager (though woefully inexperienced) are now in camps of the forester's choosing. Before them lies work with which foresters are familiar, for the planning and conduct of which foresters are responsible.

It is no stretch of the imagination to say that the nation is watching the outcome; that foresters will be judged, in the future, by their ability so to lead, in the next six months, that men may build forests, and forests - men.

MY GOVERNMENT SERVICE

By J. G. Cayton, Montezuma

My first day's work for the U. S. Government was on September 7, 1903. I was not under regular appointment but my title was Assistant Forest Ranger, so the Supervisor told me. Wm. R. Kreutzer came to my father's ranch home near Mesa, Colorado, that morning. After packing up my camp bed and provisions, we rode to the proposed Ward Lake Ranger Station, which was on the south side of Grand Mesa on the Battlement Mesa Forest Reserve. I stayed there with Billy Kreutzer and Frank Barnes, another Ranger, during the balance of September. I was to report for boundary survey on October 1, at Supervisor Dr. A. R. Craig's office at Mesa, which was a day's ride from Ward Lake. We got so interested in our work that I forgot that there are but 30 days in September and did not discover my mistake until the night of September 30. We got up early the next morning, I wrangled my horses before daylight, and reached the Supervisor's office late in the afternoon in time to start out that day with the rest of the party. Supervisor Craig, Rangers (Uncle) Dave Anderson, (Cap) L.A. Myrick, and B. F. Jay, composed the rest of the party. I was furloughed that year on October 15.

My first regular appointment reads as follows:

> Department of the Interior.
> Washington, July 15, 1904.
>
> James G. Cayton of Colorado is hereby appointed a FOREST RANGER of the General Land Office, at a salary of Sixty Dollars per month, to take effect when he shall file the oath of office and enter on duty.
>
> Each Ranger is required to provide himself with a saddle horse and equipment at his own expense, for use in the discharge of his duties.
>
> Thos. Ryan
> Acting Secretary.

During the first few years of my Government service applications for Free Use Permits for dead timber were required to be made in the spring. In the fall the permits were issued at Washington, D. C., were mailed to the Ranger on the district, and were given by him to the applicants.

During the fore part of the season of 1905 while I was stationed at Ward Lake with Billy Kreutzer, he was told by a friend that some of the "radicals" around Cedaredge were coming up to Ward Lake to drive the Rangers off. Armed with a 45-90 rifle, a 45 caliber six-shooter, and two butcher knives we laid out in the woods all one night, near enough to our cabin to see and hear any disturbance, but nothing happened. There was likely something to this report as a fish commission man was murdered in this vicinity, according to a report, some time before.

I resigned in the spring of 1906 and in July 1907 took the Ranger examination, which was conducted at Collbran, Colorado, under Supervisor David Anderson. In the written tests, one of the applicants got in all the ingredients for making baking powder bread but entirely forgot to state that the "mess" should be baked.

On July 8, 1908 I took charge of the Grand River District, where I was located until I resigned on August 25, 1919 to go to a lower altitude in California for Mrs. Cayton's health. During the time that I worked on the Grand Mesa I served under the following Supervisors: Dr. A.R. Craig, (Uncle) Dave Anderson, John W. Lowell Jr., and John W. Spencer. I helped build the following ranger stations: Ward Lake, Cox Spring, Head of Clear Fork of Muddy Creek, Big Creek, Park Creek, and Johnson Spring. The first three were one-room log cabins with dirt roofs, the others three-room log houses. When I first went to this district there were ten grazing trespass cases pending, one of them being the Emanuel Gant case. Mr. Gant told me that he would settle his trespass case according to the way the famous Fred Light test case was settled. I had paid no attention to Mr. Gant's blustering talk about his case and one day while out making feedlot counts of cattle I was quite surprised to get a telephone call from him asking me to come and count his cattle along with the others. I counted his cattle and a short while afterward, the Fred Light case being settled in favor of the Government, Mr. Gant made all of his back payments for his trespass case. A friend of mine told me several years afterward that I had handled Mr. Gant in the only way that he could be handled satisfactorily, by paying no attention to him. I knew nothing about this peculiarity of his and was perfectly innocent regarding my efficient handling of his case. During my early day ranger experiences we had a great many occupancy trespasses but at that time they were all called "unlarful enclosures." The last field trip that (Uncle) Dave Anderson took before his paralytic stroke was with me. I was the first one to start a general feedlot count of cattle on the Battlement Forest.

I was reinstated on August 6, 1920 by my own request, and have since worked on the Rico District of the Montezuma National Forest under Supervisor A. F. Hoffman. The following June after I came to Rico, I was called on to help rescue three men, who it was reported had been "Blowed up" in the Black Hawk mine. We found one still breathing but he died as we carried him out to fresh air. The other two were dead when we arrived, their death being caused by burned powder gas. I was overcome by the gas and was carried out. As they passed the doctor at the mouth of the tunnel I was laughing like a crazy man, and he said, "That man will never come out of it." I did, however, but the report got down to town that I was dead, but it did not reach my wife, who had been sent down to the doctor's office on some pretext just before they got me to my home.

I feel that at least brief mention should be made of my wife's part in this ranger job. Once, while I was on another portion of my district, the telephone system connecting our ranger station with the outside world "passed out." She wrangled and saddled her horse, got the telephone repair tools, including test set, and started out. Found a break in the line about three miles from home, repaired it, and upon hooking up the test set to test in, she could not make the central operator hear a word but could hear her. Mrs. Cayton was pretty angry when she finally gave it up as a bad job and returned to the ranger station where she found that the telephone was working fine. She had forgotten to test out the test set before she left home and the battery was run down, but there was a good one in the house, an extra which I always kept on hand. She never forgot after that. She has organized fire crews and even gone out herself with them and extinguished the fires when I was away from a telephone. A Ranger's wife is sure "part of the game" and I really feel that in too many cases she does not come in for her share of the credit for holding the job down.

Before I close this tale, I am going to mention my old favorite saddle horse, "Chinie." I bought him in the spring of 1908 when he was three years old. He has been with me ever since, except during my year in California. I have ridden him far enough so that if it were all added up, it would reach at least once around the world and probably twice. He is now pensioned, but I still have him and will always keep him until he goes to horse heaven. My old horse will be 28 years old in a few days, but nothing seems to please him more than for me to saddle him up and go for a short day's ride on him.

During my total of a little over 25 years of actual service for the Government, I have saved up and shall always keep them, 16 appointments, 3 furloughs, 2 resignations, and 10 individual raises and readjustments in salary.

The most of this tale is "ancient history," but I feel that in my case, as in the cases of a few other Forest officers, this is the most interesting part of our work and a reminiscence of it takes us back to the good old days when fighting fires, trail work, and plenty of hard riding, was the order of the day and I can't see where it has been changed much. I guess I am getting old.

I have seen some of the ups and downs of a Ranger, have worked and ridden all day only to get a fire call at night and turned night into day by going right ahead, but the rough places are pretty well smoothed out now, in fact the end of the trail is nearly in sight, as I haven't so far to go now to reach the retirement age for Rangers.

A LETTER FROM THE C.C.C. CONDITIONING CAMP AT FORT KNOX, KENTUCKY

4/23/33

Frances Perkins,
Secretary of Labor,
Washington, D. C.

My dear Madam Secretary:

I am taking the very great liberty of writing you to tell you about this Camp.

All of the men to be processed and equipped from Ohio, Indiana, Kentucky, and West Virginia are to be sent here. We have had 1,500 men from Cleveland and Cincinnati for 12 days, and during that period I have had only ONE disciplinary case, and that was a negro who did not like taking orders from a white non commissioned officer. I had him on the carpet and he is a cheerful, willing worker now. I have not had a single case of drunkenness, fighting, or refusal to work. The men are a fine, eager lot of boys, far superior to the average CMTC candidate, and while I have no "military" control over them, they respond quickly and willingly to suggestion. I have had to send a few home -- 5 or 6 -- who were homesick, "acute nostalgia" but it was better to get rid of them, than to have them contaminate the whole crowd. I had two men go AWOL the first day (they arrived in a cold driving rain) but they have since applied to come back, and I refused to take them.

My daily sick report runs about 50 men, but it's principally for bad blisters on their heels and hands. I have had no serious illness of any kind. I have had to reject something over fifty for contagious diseases.

My entire overhead now - clerks, typists, etc., are CCC men, and they are doing well and intelligently.

We have been ready here for a week for our next increment of 3,000 and I think the processing will go much more rapidly, and I feel quite certain the men will be in fine shape if allowed to remain 4 weeks. I do not think they can be hardened and conditioned in less time than that. While many of the men are in fair shape, a lot of them show the effects of mal-nutrition and are soft and flabby. The President of Ohio State University was good enough to have his Domestic Science Department, prepare properly balanced menus, using the value of the Government Ration, and I think it is helping to get the men in shape more rapidly. Their craving for sweets is really pitiful. There are certain vitamins these men lack and I did not feel that the average soldier cook knew enough to give them the full benefit of the ration.

I "borrowed" the band instruments from the CMTC and have a band started. This being Sunday morning they are TRYING to play outside my office, and the results are horrible, but the men seem to like them.

I have arranged for the men to attend church each Sunday. I have a Protestant Service at 8 a.m., Catholic at 9:30 and made arrangements for the Priest to come out the night before and hold confession, and now I am trying to interest a Jewish Rabbi in Louisville to get him to come out. This may be "strange and unusual punishment" as they say in the Army, but it is my opinion, that most of these young men never had any religious instruction, and it's a good chance to let them see what it's all about - then they can decide whether they want to go on with it.

I think your idea, and The President's, is to save a lot of young men from becoming a menace to society - potential criminals - and this Conservation Corps is going to be the making of thousands of men who, under ordinary circumstances would end up in jail.

The men have been taught the old marching songs we had in the World War, and go to and from their work singing like mad, and they like it.

I have allowed newspaper reporters to wander at will over the camp and talk to the men, and the Directors of Public Welfare of Ohio and Kentucky, and so far have had not one complaint.

I trust you will pardon this long screed, but I thought you might like an unofficial report of your "gang." You will have plenty of official ones.

With kindest personal regards, and deep admiration for the work you have initiated,

Sincerely,
(Signed) J. P. BARNEY,
Col. F. A. Commanding

This was typed by one of my men.
B.

NOTES ON COUGAR

(Clipped from R-4 Bulletin)

Recently Orange Olsen talked with Lester Williams of Milford, Utah, who is considered quite a cougar hunter in that vicinity. The following information concerning cougar was secured from Mr. Williams:

Cougar follow the migration of deer, generally inhabiting the country immediately above the deer, coming down to make their kills. They kill more bucks than does. Mr. Williams has seen 50 kills and only one was a doe. The female cougar kittens once a year, any month of the year and there are from two to four in a litter. The mother cougar will go on hunting trips and frequently not return to the kittens for three or four days. When the kittens are old enough to travel, the mother takes them to the kill, which is usually buried. If a cougar buries a kill it will return. If not, it never comes back. Mr. Williams stated he has seen where a cougar has pulled two buck deer up into trees. The cougar hunts chiefly by sight and will often pass deer if they are not in the open. Its sense of smell is not highly developed. The cougar stalks deer, sometimes creeping onto them while asleep or lying down and kills them before they can get up. Williams stated he had seen where a cougar had killed a large buck lying under a tree by grabbing it by the nose. Deer can outrun a cougar after the first hundred yards. It is Williams' opinion that a large cougar will kill three deer a week and eat about half of them. A smaller cougar will probably kill two deer a week and a female with kittens about three or four, if available.

Cougar will kill coyotes and bobcats in traps and eat them. Mr. Williams does not know whether they can kill these animals on open range. The male cougar are polygamous and assume no responsibility in rearing of young. The kittens have spots when first born and begin hunting for themselves at the age of about eight to twelve months. The mother teaches them to hunt and they usually remain with her throughout the first year. The cougar have long circuitous runs, often extending forty or fifty miles in length. They prefer the less broken country in their line of travel to the extremely rugged. When they are crowded, they will take to the roughest topography and will go in cliffs, holes, and up trees to escape.

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The experience of Jack Butler, the famous cougar hunter of the Kaibab, checks pretty well with that of Mr. Williams of Milford, but there are some differences.

Of 48 kills of deer on the Kaibab, Mr. Butler found only two bucks. Mr. Butler thinks cougar will kill whatever sex is handy and that there is no preference. Whether a female cougar will have more than one litter of kittens in a year has not been proven. In nature, a cougar is like a house cat, and may have more than one litter in a year; at least, cougar are not particular about the time of year they have them, and it is probable that they may have more than one litter.

When a cougar buries a kill, it will not always return to it. If the food supply is scarce, it will probably return, but if abundant the probability is that it will never return. No reason is seen for a cougar to pull a deer up a tree. He has the power to do it if he wants to, but the case is so unusual and so contrary to his habits that there must be some extraordinary reason for it, and the surmise is that some other force put the deer there. Cougar hunt by sight but they also have a sense of smell. Deer are not fast runners and observations here are that a cougar can catch them in any distance run. Mr. Butler has seen a cougar catch a deer after chasing it four hundred yards. The nature of a cougar is very similar to that of a house cat; they do the same things a house cat will do. They may sometimes kill for the fun of it, the same as a house cat will kill a mouse and not eat it.

The number of deer a cougar will kill per week is pretty much guess work. He will kill enough to live on, but he also eats a great many other things besides deer, such as rabbits, mice, birds, or anything in the wild. For instance, we estimate 25 cougar on the Kaibab. If the kill is 3 deer per week, it amounts to 3,900 in a year. We do not believe the loss is that big, or even at the rate of two deer each per week on the average. - W. G. Mann.

YE EDITOR DISCOVERS

For months the air has been full of cuts and rumors of cuts below 1934 Congressional appropriations. Being incurably optimistic, the Forest Service had hoped that the huge ECW undertaking would serve to temper its cuts with mercy. Allotments from Congressional appropriations were made on April 1, but the usual process of orderly planning of work and financial management for the fiscal year 1934 has been steadily complicated by uncertainty as to cuts below Congressional appropriations. Financial managers have had a new hazard to surmount in every item of financial planning done for the coming fiscal year. Every plan has had to include assumptions as to what, if anything, the budget cuts would be.

Not until June 20 was the sad news received. The raw figures show that a cut of $3,340,025 must be made from appropriations totaling $14,701,873. Wires were hastily dispatched to Regional Foresters asking how they would allocate cuts to given appropriations from which they received allotments on April 1. On the day this is written (June 22) men in many offices are busily engaged in scrutinizing and recasting all financial plans to see how the cuts can be made with the least destructive effect on the work of the Service. Now as never before, flexibility and ingenuity in financial planning and management will lessen the disorganizing effect and reduce the impact of the blow on a widely scattered and devoted personnel which deserves and will receive every consideration that it is humanly possible to give.

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The action of the President in making $20,000,000 available for purchases of forest lands for National Forest purposes, the initial executive order being dated May 20, the amended order June 7, has been followed by quick results. The purchases approved during the first thirty days following the initial executive order exceed by 120,000 acres the maximum area ever before purchased during a complete fiscal year, and the purchase work is not yet well under way.

A second meeting of the new National Forest Reservation Commission at which land purchases were taken up was held on June 20. An additional purchase of 225,649 acres of forest land in a dozen States east of the Great Plains was approved, which, together with the 443,908 acres approved for purchase on June 9, makes a total of nearly 670,000 acres approved within a month. About half a million acres of the two recently approved purchases are within the Lake States.

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Visibility maps are to be made from all established forest lookout peaks in the National Forests of Oregon and Washington as a part of the Emergency Conservation work in Region 6. The work was started a few days ago and is directly in charge of Junior Forester Albert Arnst, who will be assisted by seven young college men from Oregon State and University of Washington enrolled in the Emergency Conservation work. The party will be equipped with four special photo survey cameras, the invention of William B. Osborne of the Regional Office. The photographs will speed up detection and action on forest fires, enabling the protective forces to proceed with greater speed to the fire location and have a better idea of the type of country in which the fire is burning.

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The treaty makers who rigidly restricted Bulgaria's military activities were, in the light of subsequent developments, doing that nation a favor instead of working a hardship upon it. Bulgaria, according to a recent news dispatch, has a peace-time army of 20,000 men who do not bear arms. But they have been building new highways and railway lines, developing new agricultural projects and even opening new industries. This forging of the gun barrels into graders and cultivators is returning a profit of $800,000 annually to the state.

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Statistically inclined members of the Washington Office are keeping tab on the tangible effects the strain of EC work produces on harassed executives. Two of the latest entries in the record are as follows:

One man when tagging papers to go to the Forester made his F backwards.

Shirley Buck is one of the executives suffering the purchasing stress under ECW. In a recent telegram signed by him, this ordinarily imperturbable gentleman was alleged by the telegraph office to have signed Siley (can be pronounced Silly) Buck.

Other tangible evidence of the effect of the strain of EC work should be reported to the Washington Office in order that the record may be kept complete.

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Reduction in forest fire damage in Wisconsin during 1932 resulted at least in part from the work done by unemployed labor in reducing fire hazards in the forests, according to Paul D. Kelleter, Director of Conservation of Wisconsin. Mr. Kelleter considers that the decrease in damage caused by forest fires from $421,501 in 1931 to $69,320 in 1932 in Wisconsin forest protection districts is an example of what is meant by "self-liquidating" forest relief work.

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Major Stuart received on June 12 from Dickinson College, Pennsylvania, the honorary degree of Doctor of Science. He was graduated from this college with the 1903 class.

AN INEXPENSIVE AND EFFECTIVE LANTERN SLIDE

By Eunice Skamser, Allegheny For. Exp. Sta.

A contributor to the December 16, 1932 issue of Science made a suggestion which is worth passing on to those who might not have seen it. The idea is very practicable and has a number of possibilities.

A good temporary slide for a projection lantern can be made by cutting cellophane to size and making on it a carbon of the material to be presented. The carbon impression can be made either by writing on a typewriter with the ribbon adjusted as when making stencils or by tracing with a pencil. In typing it is suggested that the carbon paper be folded around the slide so that there is a front and back impression. In this way the outlines will be more opaque and will project a clearer image.

Of course care must be observed in handling the slide for it will easily blur. If it is to be handled very much it can be inserted between cover glasses and bound as a regular lantern slide.

GOVERNMENT PAYS TRIBUTE TO FORESTER

Ingram Point, a crest in Crook County, Oregon, on the Ochoco National Forest, has recently been named by the U. S. Geographic Board, in honor of the late Douglas C. Ingram.

Mr. Ingram was for many years Ranger in charge of the old Mill Creek district, and later was Assistant Chief of Range Management in the Regional Office at Portland, Oregon. He first used this point, formerly known as Tamarack Point, as a lookout, and it is considered particularly appropriate that it be given his name.

It will be remembered that Ingram perished while fighting fire on the Chelan National Forest in August, 1929. He was an expert on plants, and was well known in Oregon and Washington as a collector of plant specimens. His pictures of forest plants and flowers are among the best in the Regional Office collection, and he was the author of several authoritative articles on forest botany. His home at Maplewood, near Portland, was noted as the location of an unusual collection of wild plants, lilies and other plants.

"Doug" Ingram was born in Elgin, Scotland, in November, 1882. He was educated in England, and joined the U. S. Forest Service in 1909, working on the Deschutes and Ochoco Forests until 1918, when he was made a grazing examiner, coming into the Portland office a year later. He had a wide circle of friends, who will be pleased at this honor bestowed on his memory. - From R.6 News Release

BACKWOODS PHILOSOPHY

(From a letter)

"Sometimes an ignorant man, who just happens to have the right kind of laugh and who can speak the language of the people around the woods, has a better chance of success in protecting land than a man of education. Unless a man hides his education when he goes back in the woods there is always a fair chance of some one resenting that man being there. Perhaps the base of the resentment is envy or perhaps it is just a certain narrowness on the part of some people that makes them object to any one who is different from them. From what I have observed, I think a tactful person who can speak the language of the backwoodsmen has a better chance of getting cooperation from the neighbors than the graduate foresters have."

SERVICE BULLETIN

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> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 15 Washington, D. C. July 17, 1933

TRAIN BLOWS A SALUTE TO GHOST VILLAGES

The Midnight Limited of the Queen and Crescent crawled across the long trestle of Lake Pontchartrain last night, pierced the swamp mist with her glaring light and roared away on the ghost run of Mississippi.

Ol' 42 it's called down here--the most democratic train in all the world. Night after night, always on time, it races through the deserted villages of the timber country and never forgets to blow a salute to the dead towns of the pine empire, although there is none to hear the greeting.

That's why it's called the ghost run. Years ago, when sawmills wheezed a symphony from New Orleans to Laurel, the towns were bustling little places with bright yellow depots and whitewashed oaks down the main streets. But the mills went away and the trains hurried by, forgetting the days when crowds gathered at the stations to talk with the passengers and give fruit to the crew. All the trains but Ol' 42 high-hat the ghost towns now. But the Midnight Limited, her club cars gay with travelers going East, always takes time to blow just for old times' sake.

After it leaves the lake and shuffles through the black swamps of Pearl River, the Limited straightens out, blinks her tail light in a farewell to Louisiana and heads north, Alabama bound.

Two long blasts--a greeting to Wilco--and the first deserted village flashes by. Its mill stands like a frozen sentinel in the moonlight. Some passengers wonder why the place is noticed. Well, the Limited and the villagers were friends when the towns had folks living there and the attention is just a bit of remembrance from a sentimental railroadin' man.

Two more rumbling blasts and Nortac is passed. Water lilies choke the mill pond at Orvisburg--the big red store building is held together only by the grace of gravity, and the weary echoes of 42's greeting float through the empty sheds of the crumbling mill.

Just a few miles more, and Hillsdale is passed, even while the train is blowing a requiem for a forgotten village. There, 42 fills her chest with steam and pants like a winded horse up the grade to Red Top. There is nothing at Red Top now, except a pile of sawdust, but the train blows and then hies away down the ridge to get a running start for Richburgh Hill.

Richburgh is where John L. Sullivan and Jake Kilrain fought 72 rounds in defiance of the laws of Mississippi. There is nothing there any more except a few weather-beaten buildings and giant pines that troop down the hill to a creek. The engineer of 42 leans on his whistle as his locomotive pokes her nose over the ridge and strains to pull her cars over the hump. The scream of the blasts can be heard for miles. Farmers awaken with a start--"Thar she goes over the hill"--they say. Richburgh is the last of the ghost run. The Limited swings around a huge bend, dips her nose for the down grade and thunders away--her brakes cocked, her whistle shrieking.

The lights of Hattiesburg loom ahead suddenly and 42 quivers as she pulls up for a crossing and then slips into the station.

It's exactly midnight when the steam pours from her stilled pistons in that heavy sigh that good locomotives give when they rest after a long race. - From the Washington Star

KEEPING TABS ON RECREATION

By V. T. Linthacum, Deerlodge

The Deerlodge (in common with most of the other Forests in the Region, I suspect) has for some time felt the inadequacy of our information on recreational use - "for some time" meaning since we began to get a little more recreation-minded.

Perhaps the information was not inadequate in past years. What did we particularly need it for, anyway? To recreation as an activity we gave quite concentrated thought at least once a year - when it came time to make the annual report.

To the district ranger, alone very likely on a district of a couple of hundred thousand acres, and who was perhaps not yet out of the throes of a tumultuous grazing season with a few fires thrown in for good measure, and with a fair season's sales work piled up ahead and operators clamoring for service, there would come up the promise card for a report on how many people camped on the district and why? Did they travel on foot, with saddle horse, or by auto? Et cetera? Et cetera? He would probably breast up to the old typewriter and after an hour or so of guesstimating come to the realization that he really hadn't given as much time to that work as it should have had. Well, he resolved, he would keep it in mind next season and get some real dope on it. He wouldn't know then, of course, that there would be a new man on his district next season and that he would be on another district or even on a different Forest, and that they would both have their hands full trying to get oriented in the more important grazing and sales work. In the meantime, some figure must be set down, so he guessed there were about 5,000 of these and 3,000 of those. He probably concluded that the report was "just another one of those things," anyway, and what difference did it really make if there were 500 or 5,000 campers and picnickers, since there wasn't anything being done about it?

At least two things are bringing about a change. Recreational use finally grew to the point where it had to have more attention and, at the same time, other activities, especially sales work, slowed up so that the administrative personnel has been able to give a little more time and thought to recreational activity. Fuller recognition of this activity throughout the Service in the past year or so has us recreation-conscious now probably more than ever before in our history. It follows that something progressive will grow out of it and we can expect our figures to be more accurate and reliable in the future - if we continue to recognize it as an important job and provide for taking care of it.

The new Form 833 is a distinct improvement over the form in which the previous annual reports were made and would probably in itself result in better records. However, accuracy is dependent upon the basis for our figures. Actual counts are the only absolutely correct figures, and as these are not possible, the next best thing would seem to be check counts in sufficient number and under various representative conditions to give an accurate cross section on which to base our estimates of total use.

Last winter this was set up by the Deerlodge as an administrative research project. We have devised mimeographed notebook size forms for recording observations of the use of our recreational areas and of some of the roads. All administrative men will use these to record information they will get during the season whenever opportunity presents. At some of our main camp grounds, where the services of temporary men or cooperators make it possible to do so, it is proposed to keep daily records, for which purpose special forms have been prepared for the use of the observer or examiner. By making a more definite job of getting these data and providing a means of recording them systematically, we should have figures at the end of the season which will mean something. - From R-1 Bulletin.

HOW BIG A TREE SHOULD BE CUT?

By E. N. Munns, Washington

The Southern Forest Experiment Station recently inaugurated a series of cutting plots in young stands of southern pine. Measurements of the material removed yielded some surprising results when the records were compiled. Measurements were made in terms of pulpwood "bolts", cords, and cubic feet, and data were taken on the time required by the local labor to fell and to buck up the material. The results furnish some rather specific arguments for leaving the small trees, and an indication of the most profitable tree to cut for pulp. Many interesting relationships have been developed, among the more valuable of which may be noted the following:

1. There is a striking increase in the number of bolts per tree with an increase of 1 inch in diameter breast high in the smaller diameter-breast high classes, especially between 4 inches and 6 inches.
2. The cutting of small trees into pulpwood results in a tremendous waste of stemwood that rapidly becomes of merchantable size with relatively small increase in the diameter breast high of the tree.
3. It takes nearly four times as many 4-inch trees as 5-inch trees to make one cord; and between 5 inches and 7 inches the number of trees per cord drops fast enough to show the inadvisability of cutting small trees for pulpwood. Small increases in diameter breast high of small trees result in relatively large increases in the amount of cordwood per tree.
4. The percentage increase in cubic volume with an increase in diameter breast high is very large in the small trees and becomes gradually smaller in the larger diameters. Once again the waste and inadvisability of cutting small trees are shown.
5. The output in cords per hour for two men is at a maximum for 7-inch trees, but, except for the 4-inch trees, does not vary widely. The relation shown was not anticipated, as it was thought that the output would increase regularly up to at least 12 inches diameter breast high.
6. The output in peeled cubic feet increases consistently with increases in diameter breast high.
7. It is generally recognized that the actual cubic contents of solid wood in cords made up of small bolts is not as great as in cords made up of large bolts, but just how great this difference may be is probably not often known. There is a pronounced increase in volume of peeled wood in a cord with an increase in diameter breast high of the trees from which the pulpwood is cut.

TIMBER MINING

By C. W. Kline, Pacific Northwest For. Expt. Sta.

Have you ever seen a logging operation without timber fallers? In the Port Orford cedar region of Coos County, Oregon, such an operation is not unusual.

Areas deforested by fire many years ago still have much valuable Port Orford cedar timber half buried in the dense mat of the forest floor. Some of these areas are now well stocked with 60-year-old Douglas fir.

With the high values prevalent in Port Orford cedar a few years ago, "cedar prospectors" made some rich strikes. No ordinary skill is required to identify the white cedar logs. Once discovered it is only necessary to uncover the logs and make a cut or two with a bucking saw to square up the ends. Due to the durability of the species, there is much sound wood left to be snaked out to the trucks or portable mill.

"HERE THEY DUG THE GOLD"

A review by Smith Riley, former Regional Forester, R-2.

George F. Willison has given us a book in "Here they Dug the Gold," Brentano's publishers, that must prove of keen interest to foresters desiring to be informed upon the early day conditions in several of the mining districts of Colorado, and of the attitude toward forest fires.

Mr. Willison states in the Forward: "My goal has been to portray a whole society by presenting a group of persons whose lives are more or less related but of very different kinds. So far as possible these have been allowed to tell their own stories, although it must be admitted all have been edited."

Using the best available material, the characters are brought across the plains to swell the first settlement on the South Platte River at the mouth of Cherry Creek, and to take part in the gold excitement of the northern Colorado region. Forest fires come early into the picture. Five men together with their horses and dog are said to have lost their lives from this cause in flames that swept the slopes above Gregory Gulch along about '59.

There is the visit of Horace Greeley, said to be frankly impressed. But the miners have little faith in tenderfoot journalists and decide to take no chances. "The boys," so the story goes, "took an old shotgun and fired dust into a partly worked mine until it had all the riches of a Golconda." Greeley, carefully directed, fills a pan and goes to the creek to wash it. He was amazed, as it was intended he should be. He is even more astonished at the washing of the second and the third pan.

"Gentlemen," exclaims Greeley, "I have washed with my own hands and seen with my own eyes and the news of your rich discovery shall go forth all over the world as far as my newspapers can carry it."

Here we have the party of H.A.W. Tabor, spurred on by stories of gold finds in the upper Arkansas River, climbing Ute Pass. So slowly do they advance that at night Tabor often sees the "smoke sent up by the dying fire of the camp of the night before." The writer wonders why Tabor leaves burning fires behind him to light the forests.

When the Reynolds Gang appeared in South Park in '64, and held up the stage from Buckskin Joe, the loot was cached. Later, while dying, John Reynolds tells of its location, the secret of which he alone knows: "You go up there a little ways (along Geneva Creek) and find where one of our horses mired down in a swamp. On up at the head of the gulch we turned to the right an' followed the mountain around a little farther an' just above the head of Deer Creek we found an old prospect hole about timber line. There was $40,000 in greenbacks, wrapped in silk oilcloth, an' three cans of gold dust. We filled the mouth of the hole with stones, an' ten steps below we stuck an old butcher knife into a tree about four feet from the ground, broke the handle off an' left it pointing to the mouth of the hole."

Upon describing a lawless state in the boom camp causing deaths and disregard of property rights on all sides, the writer states: "Above about all else, Leadville fears a general conflagration and at the moment is suffering the greatest anxiety. For three weeks a pall of smoke has hung over the valley from a terrific forest fire raging through the timber just behind the camp. White ashes are drifting like snow in the streets. At one time destruction seems almost inevitable. Shooting forth an arm, the fire cuts across upper Harrison Avenue, razing Capitol Hill, blocking all roads but that to Malta. If it should veer to the north, Leadville will be in ashes before the uptown folks have time to eat their supper."

We are told that in February 1883, when H.A.W.Tabor went to the United States Senate for the period of thirty days, one of the only two bills that he introduced was to provide $100,000 for the preservation of the forests in the West, for Tabor confesses he "don't see where railroad ties will come from unless something of this kind is done."

RANDOM THOUGHTS OF A FIRST FLIGHTER

By W. I. Hutchinson, R.5

Yeah, our first flight! Now go ahead and laugh you forest air-patrol hounds and Transcontinentalers! But, come to think of it, with all the flying that's been done in the California Region, we have never yet seen any recorded first impressions. So, here's ours, on a little flight from San Francisco to Los Angeles.

Mills Field on the mud flats of San Francisco Bay. - Seattle plane 30 minutes late. -Here she comes at last. - "All Aboard!"-"Seat No. 10 by the door, please."-No chance to fall out? -Thanks. -Nice looking girl, the Stewardess; Miss Burns the sign says. -Pilot's name is Gugliemith.-Wonder what nationality that is? -There go the motors! What a racket!

We're off! -Hope we don't run into those salt pools. -We love those pink pools, but not to drown in. -There, we left the ground without a quiver. -Wonder if we paid that last insurance premium? -How big the Bay looks, and how pretty with its black cloud-shadows and hazy film of fog. -There's the San Mateo bridge, stretching like a long white ruler across the waters. -Patches of blue flowers. -Sparkling lakes that supply San Franciscans with water. -Open fields dotted with mushroom-like clusters of oaks. "Cotton wool for your ears, and some gum to chew." Thanks a lot!

Sure a pretty country, this Peninsula. -Town after town; checkerboard streets; row on row of houses. -Endless streams of autos crawling like ants along the Bay Shore Highway. -A lumber yard with symmetrical piles of yellow boards. -Red-topped Stanford University, and the great empty stadium. -Wonder if they'll beat Cal. this year, now that "Pop" is gone?- An ocean of fog over the hills to the west. -Farms and orchards that look like the patchwork quilts grandmother used to make.

Don't seem to be moving very fast. -One-hundred and ten miles an hour! -Honest? - Can't see the propeller blades at all. -Look at that big rubber-tired wheel on the landing gears, still as a mouse. -Full house today; two queens and three knaves. -One blonde with a big white gardenia, foxy eye glasses, diamond set watch, and a husband. -We're up to 9,000 feet. -Here's Mt. Hamilton and the Lick Observatory; -looks like three half-shells of eggs set in a brown nest. -And there's Merritt Pratt's one (and only) stone fire lookout tower.

Over the hills we go! -Up to 11,000 feet now. There's the ocean over there in the distance, and Monterey Bay like a gigantic reversed question mark. -Down below, a field of haystacks, like warts on the landscape. -Snake-like creeks marked by straggling fringes of trees. -A little farm house set in a heart-shaped field of green; newlyweds maybe. -That white sandy ribbon must be the Salinas River. -And beyond, the dark-blue mountains of the Monterey Division. -Rough country this Diablo Range: -Reminds one of the broken ice-fields of the Arctic. -Here's nature's jig-saw puzzle: a meadow cut into fantastic pieces by floodwater channels. -Wish the plane wouldn't vibrate so: makes my corns tingle. "Lemonade and biscuits?"- Yum-uym! -- "And a cigarette?" -My what service!

The great San Joaquin Valley to the east; -and on the horizon; the snow-capped peaks of the Sierra. -What a view! -Sure is a barren country underneath. -Must be some of that Public Domain that Uncle Sam's trying to give away to the State. -There's Coalinga, set in a grove of oil derricks. -Brown and green hills moulded by the hand of nature; strangely beautiful from the air. -Wrinkled like the face of a hundred year old Indian chief; seamed with lines like the palm of your hand. -What erosion! Endless gullies, washes, detritus fans. -My, how Doc. Lowdermilk would love this country!

Zo-o-om: A trail wind caught us. -Speed dial up to 140 miles. -White oil tank farms in the brown desert. -Oil wells surrounded with earth dykes; look like giant mule tracks. -Two spots of green; Bakersfield and Taft. - Gosh, look at all the oil derricks! -Well, no wonder California leads the world. -There's the Grapevine, and over yonder Frazier Mountain covered with fresh snow. -Timber below! 6,000 feet. -Say, I wish they'd stay up a bit higher. -This Santa Barbara Forest always looks better at a distance.

Zowie! We sure dropped then? -Where's that safety belt? Gee, but it's bumpy! W-h-o-o-p! We almost touched that peak. -Hope the pilot knows his business. -Still have a few years left; if they don't pass the compulsory retirement bill. -Well, if there isn't Sandbergs; and a great big fire scar on the mountains. -This must be the Angeles. -Yes, there's the new Ridge Road with its long, lean curves. -What a peach of a highway! Firebreaks, truck trails, silvery gas lines crawling over the mountains. -St. Francis Lake where the dam went out. -Saugus. -Railroad tracks -Bill Hart's palace on top of the hill at Newhall; and at its feet, a little ranger station. -Wonder if Two-gun Bill will get friendly and send Bill Durham cigars next Christmas; as he used to do to Guerdon Ellis? San Fernando. -Autos, orange and lemon groves, reservoirs, dry washes, real estate subdivisions -Southern California.

O - o - - oh! Did you see the ground rise up to meet us! Look at her go! Stop her, mister, stop her! Better take that cotton wool out of your ears or they'll know you're a tenderfoot. -How your eardrums ring. -"Burbank Airport. All out." Three hundred and fifty-three miles in two hours and five minutes. -That's flying some! --- Goodbye Stewardess. -Gee, but the ground feels good! - From R-5 Bulletin

YE EDITOR DISCOVERS

In originally allotting 20 million dollars for the purchase of forest lands, the President provided that the allotted funds should be expended exclusively within the 42 National Forest purchase units previously established by the Secretary of Agriculture with the concurrence and approval of the National Forest Reservation Commission. Almost simultaneously, however, several States developed a keen interest in the establishment of National Forest units within their borders, notably Illinois, Missouri, Texas, and Mississippi. A modification of the provisions of the original executive order so as to permit purchases within new areas therefore was strongly recommended by Senators and Representatives from those States and by others who believed that a wider distribution of the available funds would contribute to the effective use of the Civilian Conservation Corps in the solution of the forest problems of the States involved. In consequence, the President on June 24 issued a new executive order which provided that the allotted funds could be expended within units hereafter established by the Secretary of Agriculture and approved by the Commission, as well as within those previously established.

Data relating to a number of proposed new units are now being secured and compiled by the Forest Service and will be incorporated in a supplemental program of purchase units which will be submitted to the Secretary of Agriculture and, if approved by him, to the National Forest Reservation Commission at the earliest practicable date. Purchase work within the units approved by the Commission will then be initiated in conformity with the established procedure.

While the four Congressional members of the Commission are now absent from Washington, they have indicated their willingness to attend meetings of the Commission if necessary. Consequently it is hoped that the Commission's final decision as to the establishment of new areas can be obtained within the next few months.

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Forestry is a major subject with five young men who attended the annual National 4-H Club Camp at Washington, D. C., June 15-21. These youths, representing 11,000 having forest projects, and more than 900,000 club members throughout the United States, conferred with Forest Inspector George A. Duthie and Extension Forester W. K. Williams of the Washington Office, discussing forestry and the Emergency Conservation Work, which will employ 300,000 men in forests this summer. Each boy has a record of achievement in forestry in his State.

Leon McNair of Windsor, N. Y., emulated President Roosevelt in developing the forests on the home farm.

Joseph K. Langdell of Wilton, N. H., aroused his community and led the civic organizations in planting 25,000 pine trees about an old reservoir site, to transform it into an attractive community forest.

Joseph Brogdon of Sumter, S. C., reclaimed an old field on the farm by planting 1,000 slash pines.

Allen Holmes of Charlestown, N. H., at 16, became one of the best forestry and wood specimen judges in his State.

Nelson Taylor of Groton, Mass., decided that the new town forest needed renovation and fire protection and led crews in thinning 50 acres, replanting bare spots, helped acquire a fire lookout tower and is organizing a forest fire patrol.

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Two cooperative forestry educational trucks, known to the Service as "showboats", have started out on a summer's campaign of carrying to the President's Emergency Conservation Work camps a program of forestry educational motion pictures and lantern slide talks. The Oregon "showboat" has been in service on cooperative forestry educational work for the past six years; the Washington truck, modeled after the Oregon vehicle, has been equipped to meet the demands for such work in the peace time camps of the forest corps.

The project is in charge of George E. Griffith, assistant in Public Relations in the Regional Office. The Oregon truck will be manned by W. V. Fuller and A. G. Jackson. The crew of the Washington truck consists of Albert Wiesendanger and N. J. Penick.

The programs will be designed to build up the morale of the men and give them a pride in their work, by explaining the fundamental importance of forestry in the local and national picture, and the relationship of the work the men are doing to the general problems of reforestation and forest protection.

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The headquarters of the Pacific Northwest Forest Experiment Station have been moved from the Lewis Building to the new U. S. Court House, Main and Sixth Streets, Portland, Oregon.

FEMINIST MOVEMENT IN FORESTRY

New Zealand
State Forest Service
Wellington April 18, 1933.

(Letter to a Member of Forest Service:)

I understand from the Secretary of the Society of American Foresters, that you are engaged in forestry work of some kind. As a fellow woman forester, I should be most interested to hear what you are doing and would be very pleased if you could find time to write me about your work and conditions generally. If it interests you, I should be glad to correspond occasionally; there are no other women doing forestry work out here and one likes to be in touch with one's own profession.

I graduated - B.Sc. Forestry - at the University of Wales and worked with the British Forestry Commission before coming out to the Service some years ago. I am working on the silvicultural-research side, chiefly afforestation practice, and latterly on growth and field studies, which have been much neglected up till now. Unfortunately economy is cutting our expenditure to less than the minimum, so that we have been unable to travel at all this year and field work has been practically nil. Conditions on your side are apparently quite as bad - may they soon buck up a bit for all of us!

I correspond with a Finnish girl forestry graduate, and there have been a few girls graduating in England, you have about four (4) in U. S. A., and it has occurred to me that it might be a good plan to form a species of correspondence club or society, through which we could exchange and circulate letters and ideas.

You, of course, have your own professional society, and I have the New Zealand Institute of Foresters, and the home people have the Society of Foresters of Great Britain, but I feel that a link with other women foresters might be mutually interesting and worth while. If you think the idea worth following up, perhaps you could get into touch with the other women members of your society. I would be interested to hear their views.

Yours sincerely,
(Signed) Mary Sutherland.

(Note: This correspondent has been referred to Dr. Eloise Gerry, Naval Stores Investigations, Forest Products Laboratory; and Mrs. Margaret S. Abell, Appalachian Forest Experiment Station.)

GLYCERIN AND ORONITE

No doubt most foresters have at one time or another colored maps with crayons and then rubbed these maps with gasoline to both fix the color and make it even. The Forest Survey has had occasion to do considerable of this work and some of the men coloring maps were annoyed by the rapidity with which the gasoline evaporated, which necessitated a constant dipping of the felt pencil and often resulted in an uneven color. Some experimenting showed that the addition of a little glycerin to a can of "Oronite" gives a solution which does not dry so rapidly and therefore is much better for this work. - H. J. Andrews, Pacific Northwest For. Expt. Sta.

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>
> Theodore Roosevelt

Vol. XVII No. 16 **Washington, D. C.** **July 31, 1933**

PUBLIC RECREATION

(By Lewis E. Staley in Service Letter of the Pennsylvania
Department of Forests and Waters)

The spirit of recreation is nation-wide and the annual expenditures for its enjoyment run, not into mere millions, but into billions of dollars. Public recreation is a rapidly expanding phase of American life. In general, it is a reflection of material well-being and an increasing appreciation of spiritual value. So long as recreation is indulged in freely by all classes of people we have a sound and healthy, economic and social life.

We must provide new capital. Nature has provided natural beauty almost beyond comprehension in the mountains and valleys of our country, but man must keep them clothed with trees and provide the necessary desirable and effective agencies to supplement nature's gift. In our recreation plan we must not leave out correlated forms of land use. With this treatment of our landscape, recreation can rest upon a firm and economic basis.

The late former President Coolidge once said:

"Through recreational opportunities may come a better appreciation of the necessary development of our lives. They should be made to contribute to health, to broader appreciation of nature and her works, and to a truer insight into the whole affair of existence. They should be the means to acquaint all of us with the wonders and delights of the world in which we live and of this country of which we are the joint inheritors. All Americans should have a reasonable amount of leisure and they should be educated to use such leisure for their own enjoyment and betterment, and the strengthening of citizenship."

Dr. Joseph T. Rothrock was not only the Father of Forestry in Pennsylvania, but also one of her outstanding conservationists, who fully recognized the value of living in the outdoors and employing leisure time for healthful habits. Doctor Rothrock saw and provided for the growing need of outdoor life. He spent many years in the woods in various capacities and often remarked that his trips to the mountains saved many doctor bills.

There are many valuable recreation facilities in Pennsylvania which bring in hundreds of thousands of dollars to the Commonwealth. Income from fishing licenses amounted to $263,633 for 1929; $264,580 for 1930, and $395,760 for 1931.

Then there was income from the State Forests for other recreation developments for the same years of $19,449.60 for 1929; $22,170.87 for 1930, and $24,468.46 for 1931.

Public recreation in Pennsylvania is being recognized as one of the outstanding features of State and private forest land development. The progressive forester has had to recognize forestry in a much broader sense than growing timber. In its truest and broadest sense it is a combination of all those activities and benefits which accrue from the preservation and development of a satisfactory stand of tree growth. The average citizen cannot visualize the wood problem and what is involved to solve it, but he can very clearly see the advantage of forestry in forms of land use such as hunting, fishing, camping, and other varied forms of woods life.

Many popular forms of public recreation and growing timber, in my judgment, go hand in hand. They are inseparable, and the forester that can see nothing but the trees is losing a remarkable opportunity to develop further the timber resources of the country.

FRATERNAL TWINS BECOME SIAMESE TWINS
or
WHAT THE GOVERNMENT PRINTING OFFICE HATH JOINED LET NO MAN PUT ASUNDER!

By Daytonius, Washington.

A new edition has now appeared of the STYLE MANUAL of the Government Printing Office and becomes the Koran, Avesta, and Vedas of Forest Service authors and editors. A general critique should be made by someone in Public Relations; permit me, however, a little comment on the new list of "Plant Names," pp. 133-138, a list which is worth close scrutiny by everybody in the Service interested in this subject. This list is essentially an addition to Standardized Plant Names and tends strongly to make the official spelling of plant names consistent and reasonable.

To speak frankly: One of the most exasperating details this writer had to contend with in getting out his bulletin on western browse plants was the form of the common names. His manuscript was prepared with consistent regard for Standardized Plant Names principles but the Department Division of Publications outdid Procrustes, and the Medo-Persians in consistency by an adamantine refusal to recognize such principles when in conflict with Webster's Dictionary. For example, rabbitbrush, being a generic name, should, under Standardized Plant Names rules, be spelled solid but the genus is neither arborescent nor in horticulture, hence is not listed in either official authority, Sudworth's Check List or Standardized Plant Names, hence its spelling conformed to the two-word norm of Webster's Dictionary, all rules of consistency notwithstanding. It is very gratifying, therefore, to note that the Government Printing Office is making this intelligent and progressive step in the interests of consistency, and hence of economy and of the ease of authors, editors, proof-readers, and typesetters.

The following plant names, written solid, now supplant names written in the browse bulletin (following Webster's Dictionary) either as two words or hyphenated: Blacklaurel, creosotebush, mountainheath, rabbitbrush, squawcarpet, and tarbush. Poison-ivy, poison-oak, and yerba-santa are now hyphenated, instead of being written as two words (as in Webster's Dictionary); there are visual objections to writing those three names solid.

The following grass names are now written solid, instead of as two words or hyphenated as hitherto: Beachgrass, beardgrass, bromegrass, crabgrass, feathergrass, hairgrass, junegrass (note the lower-case j), lovegrass, mannagrass, melicgrass, needlegrass, oatgrass, oniongrass, pinegrass, pricklegrass, reedgrass, ricegrass, ryegrass, saltgrass, sandbur, sloughgrass, sprangletop, squirreltail, switchgrass, tanglehead, and wheatgrass.

The following departures from Check List spellings are also noteworthy; in each case it will be noted that the Style Manual style is preferable to that of the Check List so far as uniformity, consistency, and simplicity are concerned:

1933 Style Manual	Check List
allthorn	all-thorn
coffeetree	coffee-tree
crapemyrtle	crape myrtle (not a true myrtle)
desertwillow	desert-willow
devils-walkingstick	devil's-walking-stick
flowerfence	flower fence
Hercules-club	Hercules club
honeylocust	honey locust (not a true locust)
indigobush	indigo bush
mountain-laurel	mountain laurel
mountain-mahogany	mountain mahogany (not a true mahogany)
paloverde	palo-verde
paper-mulberry	paper mulberry (not a true mulberry)
parasoltree	parasol-tree
singleleaf ash	single-leaf ash
waxmyrtle	wax-myrtle

The Government Printer indicates that these 1933 Style Manual spelling forms will hereafter be official in the Government Printing Office.

BACKWOODS SOPHISTRY

By R. D. Forbes, Allegheny For. Expt. Sta.

The Backwoods Philosopher quoted in Service Bulletin of July 3 is all wrong. When he says that "Sometimes an ignorant man, who just happens to have the right kind of laugh and who can speak the language of the people around the woods, has a better chance of success in protecting land than a man of education", he confuses ignorance with simplicity, and education with book-learning. He goes on to say that "Unless a man hides his education when he goes back in the woods there is always a fair chance of some one resenting that man being there." A school-educated forester can make no more tragic mistake than to modify his vocabulary when he goes back to the woods and to forget what he has learned in the schools. In the first place, there is no woodsman so simple as not to recognize when he is "being talked down to". And in the second place when the school forester forgets what he learned in school he deliberately throws away the only possible equipment he has for the job of forest guard or forest ranger. He may effect a little temporary acceptance among the younger generation in the woods if he murders the King's English, hee haws with the multitude, and learns to chew tobacco and "cuss" with the experts. But the shrewder of the older generation - and there are few shrewder men than those who have lived all their lives in the woods - will pierce this outward veneer of assumed comradeship, and will have no faith in the man who they know is "play-acting". The thing for any young fellow to do upon going into the woods is to keep his mouth shut and his eyes open, to conform so far as possible in such inessentials as dress and social custom, and to bring to his job every ounce of wisdom and foresight which his formal education has given him. The man who does this will in time be entirely forgiven his little differences in language and pronunciation, and will gradually assume leadership by the sheer force of intellectual superiority. I'll never forget the remark of an old nester in the mountains of western North Carolina when he asked me if I did not get lonely living all by myself in Dr. Schenk's old summer home in the "Pink Beds". The question surprised me, as I did not suppose that the local people had been interested in me or my ways; soberly, I said I didn't know any reason to get lonely. "There!", said the old fellow triumphantly, "that's jest what I told 'em. I says to them: 'Why, that young feller

EMERGENCY CONSERVATION WORK

(From an article by John W. Keller in Service Letter of the Pennsylvania Department of Forests and Waters)

Probably more important than the protection and administration work we perform, the roads, trails and fire lanes we build, the improvement cuttings we make, or the trees we plant, is the impression that we make on the enrolled men who have watched us perform our work. If they have a clearer conception of the need for forestry and a better outlook on life, and if the expense involved has caused them to develop better habits and stronger characters, we will be doing our part in building a better civilization. Don't let us forget that our duty is more than to provide work for these enrolled men. We, the leaders in this movement, must set an example of sincere devotion to duty, prove that we can capably handle each job, and show by our action and mode of living that the great outdoors in the heart of the forests is not only helpful and interesting, but persons who lead such lives are best able to do the work, and demand the respect and admiration of all mankind.

FIRE DAMAGE AS AFFECTED BY SEASON OF BURNING

That fires at different seasons differ in the amount and character of damage they do has long been the contention of various observers. To throw some light on this question a series of four adjoining plots at the Michigan Forest Fire Experiment Station were burned over at various times during 1931 and the resulting damage noted. The results support the above contention and point out the ways in which fires at various seasons differ.

The experiment was carried out in an open stand of all-aged jack pine and the conclusions reached may not be applicable to other types. The results of other fire damage studies underway, however, tend to substantiate them for jack pine.

Season of Burning	Percent of Total Stand Killed – by Size Classes				
	0.0'– 1.9' height	2.0'– 6.9' height	7.0' height – 3.9" dbh.	4.0"– up dbh.	All Sizes
Early spring	99	95	26	0	84
Late spring	95	76	5	0	73
Summer	82	88	40	9	68
Fall	64	80	26	0	57
All seasons	86	89	26	2	72

As is to be expected, mortality in general is greater in the smaller size classes and progressively less as size increases, regardless of the season. It will be noted, however, that in the smaller size classes mortality was highest in spring while in the larger size classes a marked increase in mortality was later evident, particularly in summer.

In other words, *spring fires in jack pine are particularly destructive of seedlings and saplings but do little damage to merchantable timber*. *Summer fires, on the other hand, are less completely destructive of small trees but do considerable damage to trees in the larger size classes*.

The reason for this is that spring fires, as a rule, make a complete burn but are confined to the surface litter and hence are not hot enough to damage seriously the larger trees though killing most of the small ones. Summer fires, on the other hand, burn deeper, are hotter and are more apt to crown, and hence do more damage to large trees. Both summer and fall fires, however, are inclined to be spotty owing to the presence of green vegetation, thus allowing a larger proportion of the small trees to escape destruction.–Technical Note, Lake States For. Expt. Sta.

FORESTRY CLUB BOYS EDIT ISSUE OF PAVO (GA.) WEEKLY NEWS

By Marie F. Heisley, Washington

New lustre was added to the accomplishments of boys' forestry clubs when the forestry club of Pavo, Georgia, got out the June 8 edition of the weekly paper. Except for the local and social news, the edition was devoted wholly to forestry matters. The leading articles, "Brief History of Reforestation in the United States", "The South, the Coming Source of Woodpulp", and "Woods Fires, Their Prevention and the Damages They Do", as well as the editorial, "Community Reforestation", and subordinate articles, were all written by members of the club. The club plans to publish an issue of the paper every year as a way of interesting the people of its community and Thomas County. The paper on which the forestry edition was printed was manufactured from Georgia pine woodpulp and was donated by Dr. Charles H. Herty.

The club is also working towards the formation of a "Timberland Protective Organization", composed of timberland owners who sign an agreement "(1) Not to put fire in my woods, (2) Not to let anyone else do it, (3) Not to put fire in anyone's woods." The organization will not be perfected, however, until protection has been pledged for 10,000 acres of forest land. So far owners of 4,000 acres have signed up.

The club has also obtained the cooperation of the local broadcasting station. The boys have already been on the air once and plan to begin a series of bi-monthly broadcasts. In addition, they have held evening classes for persons interested in forestry where different phases of the subject were discussed. The club is now posting all the roads that lead to Pavo with posters displaying its slogan, PREVENT WOODS FIRES - GROW TIMBER - IT PAYS.

YE EDITOR DISCOVERS

A letter to Major Stuart from the Secretary of Agriculture says:

"I am greatly impressed with ... the account of the work accomplished by the Forest Service in carrying out the Emergency Conservation Work program.

"Congratulating you on the splendidly efficient manner in which you have gotten this work started, I am

Sincerely yours,
H. A. Wallace"

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A much larger number of E.C.W. camp locations was selected than could be occupied after the available men were allocated to all approved camps throughout the country. After cutting the number selected by over one-third, 588 National Forest camps in 32 States were approved and have been occupied. Three camps have been established on three migratory bird refuges managed by the Biological Survey. Six camps are installed on revested grant lands in Oregon.

At the same time the Forest Service has worked with the officials of 47 States to locate and plan the work to be done from 321 camps on State-owned forest lands, 217 camps on privately-owned forest land, and 122 camps on privately-owned lands of various sorts where soil erosion control is needed to help reduce floods. The private land camps are established for the forms of joint public and private endeavor in forest protection and flood control authorized by the Act.

Thus the Forest Service, aided and advised by several other bureaus in the Department of Agriculture - the Bureaus of Agricultural Engineering, Biological Survey, Chemistry and Soils, Entomology, Plant Industry, and Plant Quarantine, has arranged for forestry and erosion control work from a total of 1257 camps under the immediate or general jurisdiction of the Department of Agriculture.

The Federal and State forestry officers collaborated with the Army in locating the exact building site for each camp; assisted in camp installation by the loan of tools and equipment, trucks, personnel, and such building material as were on hand; and, in cooperation with State relief agencies, selected the locally-enrolled experienced men to aid in camp construction. Cooperation between the Army, the relief agencies and the forestry agencies has been close and effective.

More than 17,000 foresters and others trained and experienced in directing woods work or performing the specialized tasks involved have been employed, in addition to those available among the enrolled men. Already there is a sizable quantity of forestry work accomplished to the credit of the Emergency Conservation project - forest plantations established, thinnings made and worthless trees removed from the forests, fire breaks started, truck trails, horse and foot trails laid out and begun for better access for forest protection.

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Arthur C. Ringland, who recently returned from Europe where he has been studying European forestry for the Forest Service, has submitted a compilation of European forestry legislation for the years 1919 to 1930 for 23 countries, drawn from the records of the International Institute of Agriculture in Rome. He plans to compile the laws for 1931 and 1932.

A hasty review of the compilation indicates that it gives, both in the native language concerned, and translated into English, a brief description of the purpose or content for each piece of legislation referred to. The complete texts of the laws are not included. Ringland says that, if opportunity permits, some of the more important laws will be compiled in full text. In any event the compilation might aid in the identification of certain laws so that particular ones might be secured upon special requests to the countries involved.

The compilation appears to include many game laws, and it would seem that people interested in game matters as well as in forestry matters might be interested in this compilation. It is quite bulky and only one copy is available at the present time.

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An Executive Order, dated July 11, requires that all ECW purchasing transactions of over $2500 each be approved by Director Fechner. He is authorized, however, to delegate such authority. An effort is being made to get him to limit the transactions referred to Washington for approval to purchase of articles of clothing, toilet kits, and wearing apparel; the Forester, Regional Foresters, and State Foresters to be authorized to approve purchases of over $2500 each for other items of equipment and construction material. If this effort fails and all transactions of over $2500 have to be referred to Washington for presentation to and approval of Mr. Fechner's office, everybody concerned is confronted by a big new addition to the already heavy burdens of the EC work. It is planned that it will require six additional men in the Washington Office of the Forest Service to handle the telegraphic and mail correspondence, compilations, tabulations, preparation of explanatory matter, conferences with Mr. Fechner's office and the representatives of unsuccessful bidders, etc. Corresponding increases of force all along the line would doubtless be necessary. The trouble is that inexperienced personnel cannot take over this additional burden. No matter how much extra help is employed, the already overburdened regular force cannot avoid a heavy additional burden.

Apparently the purchase and delivery of equipment and construction materials have not yet caught up with the demands of the work on the ground but are doing so rapidly. It is estimated that reference to Washington of purchases of over $2500 in amount will slow down actions by an average of at least two weeks.

Nearly 7,000 trucks have been purchased from the bids opened on May 29, the Chevrolet Motor Company securing the award for pick-up trucks, ton and a half stake bodies, and ton and a half dump bodies. The trucks required for State and National Forest camps have gone far beyond any indication given bidders as to quantities required. The Chevrolet Company's bid expires July 28 and it is not expected that any trucks will be purchased for EC work after that date for either State or National Forest camps.

The Washington Office has come to regard that day as unusual, if not lost, in which a request for a new special report is not received. Some of the reports are entitled to be called "humdingers". Some of these demands for reports have to be passed on to the field. One of the latest is a requirement that a report be made at the end of each month of the work accomplished at each State and Forest camp. Many conferences and many changes in the form have produced a one sheet report to be made monthly by each camp commander. Some of the men who have worked on this report think they have done wonders keeping it simple and easy. Camp commanders and Forest officers, however, will probably think and say unprintable things about the way in which the swivel chair bureaucrats call for elaborate reports without defining clearly how the variegated work of 1257 camps should be compressed into a simple (?) report.

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Our latest report of brain fatigue as a result of the pressure of EC work is:

H. J. Eberly, Clarke-McNary Inspector of the Gulf States, received a letter addressed to "C. F. Bruner, 600 Stern Building, New Orleans, La." Since it bore the initials of Inspector Evans, of the Southeastern States, the name of Bruner, of the Central States, and Eberly's address, Eberly wonders if it means the beginning of a consolidation of the three districts concerned.

OLD PROBLEMS OF WOODEN BRIDGE BEAMS SOLVED

The familiar wooden bridge is destined to assume a more secure place in the economical development and extension of America's highway system. After a year of work in analysis and in the testing of 200 built-up wooden beams of many sizes, in which artificial "checks" of any desired depth were "made to order" in assembly at the Forest Products Laboratory of the U. S. Department of Agriculture, Laboratory engineers now are able to show the way to more economical design of girders with safety.

Practically all wooden beams have seasoning checks or fissures along the sides at midheight. In the development of the American highway program costing several billion dollars, the lack of a dependable shear theory for such beams has proved a source of confusion to bridge designers. The old accepted theory was ultra-conservative, calling for timbers large enough to resist certain supposed stress combinations that have not been verified in service. The uncertainty of the old shear theory has led to neglect of the merits and economy of wood altogether and replacement of wood by more expensive materials.

The Forest Products Laboratory's research demonstrates mathematically and by test that a single checked beam acts in part as two beams, one on top of the other, as a moving load approaches a support. Hence the shearing stress at midheight of the beam is much smaller than formerly supposed, and beams 30 to 50 percent smaller in cross section than allowed by the old design may be used with entire safety.

The main findings have been adopted by railway and highway authorities and thus take their place in regular design and inspection work on bridge structures. The result of the new recommendations will be more efficient and economical construction as well as assured safety. J. A. Newlin, principal engineer, conducted the research with the assistance of G. E. Heck, engineer, and H. W. March, mathematician, all of the Forest Products Laboratory. - From R-6 News Release.

SEDIMENT

(Extract from an article by G. R. Young in The Military Engineer for May-June, 1933)

The following table summarizes the basic hydraulic data on the four German rivers, on the Waal in Holland, and on the Lower Missouri:

Rivers	Average slope ft. per mi.	Average minimum flow for project depth c. f. s.	Annual sediment movement, cu. yds	Project depth ft.
Elbe and Oder	1.0 to 1.4	2,000 to 3,500	200,000 (Elbe unknown)	3½ to 5½
Danube	1.5	8,000 to 23,000	not over 500,000	6½
Upper Rhine	4.6	18,000	not over 1,000,000	6½
Waal	0.57	32,000	1,300,000	10¼
Lower Missouri	0.83	20,000	240,000,000	6

It will be seen that, except for the Elbe and Oder, these rivers are all of about the same order of magnitude as regards flow. As to slope, the Missouri is considerably flatter than the Elbe, Oder, or Danube, while the Rhine is in a class by itself. Neither factor can be responsible for the admittedly greater difficulties that the American engineer encounters.

The critical factor is the sediment. Its annual total for the Missouri is several hundred times that for any of the European rivers listed. In a single day in June 1929, the Missouri carried about eight times as much sediment past Kansas City as the Upper Rhine is reported to carry in a year.

PUBLICATIONS WANTED

The Washington Office Library lacks the following forestry publications:

North Carolina Conservation Department Circulars 2, 4, 5, 6, 8, 17.

Georgia Forest Service Bulletin 9 and Leaflet 9

If extra copies of these publications are available it will be appreciated if they are sent directly to the Library.

FIRE DAMAGE PORTRAYED IN STONE STUMP PART OF CONFEDERATE SOLDIER MONUMENT

An example of how generally accepted the occurrence of fire scars on tree trunks in the South has become was recently called to our attention by Ellery Foster of the Southern Forest Survey. In a recent letter he states: "You know the inevitable stone hero in gray that stands guard over the headquarters of each county government through these parts. The one at the County Court House at Carrollton, Mississippi, has one leg of the hero leaning against a tree stump (a trick of the sculptor to give the stone men support more substantial than their own stone ankles and legs). The sculptor of the monument must have been a keen observer and realist for he portrayed a neat fire scar in the stone stump. What could be more typical of a Mississippi stump except possibly red bugs, and these would be difficult to execute in stone except in greatly magnified proportions?"-Southern Forest Expt. Sta.

SERVICE BULLETIN

UG 1933

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 17 Washington, D. C. August 14, 1933

CANADA'S "ECW" PROGRAM

Forestry is also furnishing the Government of Canada a means for taking care of its army of unemployed workers, according to an article by Robson Black in Canadian Forest and Outdoors for July.

Under the supervision of the Department of National Defence, over 7,000 single unemployed young men are now in work camps. The men are provided with transportation to camp, food, and clothing, and an allowance of 20 cents per day of 8 hours. Not even in the remotest sense is it a "military" undertaking, except in so far as the organization of the National Defence Department shapes the collection and distribution of men, directs the general program, and provides from its own personnel, a part of the supervisory staff. No regulations are enforced beyond the reasonable discipline of a lumber or construction camp. Gang-bosses of trained capacity assign and direct each piece of work, these better-qualified men, many of whom are married with dependents and in need of relief, being engaged from unemployed professional ranks at a somewhat higher rate of allowance and maintenance. In the case of a man finding paid employment from an outside source, his release is immediate and his fare is paid to the appointment.

In addition to the reforesting of public lands and the allied project of forest improvement and the building of roads through tracts available for silvicultural control, telephone lines and trails to facilitate quick communication and transportation by rangers, 50 landing fields for a coast-to-coast aviation schedule will be built. The landing fields will be located with a view to directness of flying routes coupled with accessibility to points of contact for passenger and freight traffic. The construction of rifle ranges and the improvement of areas set aside for artillery practice are also included in the program.

One of the most suggestive experiences of the camps thus far is that while newcomers sometimes measure up to only 40 percent of the standard of efficiency, they rapidly build up to 60 and 80 percent of the mark, depending largely upon the calibre of the gang-boss. In one camp, the men achieved 125 percent efficiency, which is a golden tribute to the morale and muscle of a bunch of young Canadians working for their government for "everything found" but no cash.

It may be, Mr. Black says, that the present seven thousand men sent to the work camps will grow to one hundred thousand as the reservoir of the "single unemployed" flows outward from cities and towns to the scene of pioneer operations. Next year or five years hence, the facilities now laid down by the Department of National Defence will still be utilizing every willing hand for which no wage offers, in useful labor for the country's advancement.

In 1932 the people of Canada paid for every unemployed person an average of $9.22 for every day's labor provided. The cost per day for every man working under the plan of the Department of National Defence has worked out at $1 and this will probably be cut down, later on, to 95 cents.

FROM AN OLD REPORT

By L. A. Barrett, R. 5

The following extract from a Plumas Boundary Report of 1904 is an excellent description of the fire situation 30 years and more ago:

"From the beginning of the dry summer season, in June, till its close in October, the smoke of forest fires is always to be seen.

"The common type, and in fact almost the only type, of fire in the forest is a light surface burn that at first sight seems to do little damage. On closer examination it becomes apparent that almost all localities in the entire region have been repeatedly burned over by these mild fires. It is because of this frequent consumption of forest debris that large accumulations, sufficient to furnish food for fierce fires, are seldom met with.

"The people of the region regard forest fires with careless indifference. Timber has been, until within a few years, of little value. Everyone has plenty for his own needs. To the casual observer, and even to shrewd men, who do not realize that the prosperity of a country may depend upon its capacity to grow timber, the fires seem to do little damage. The Indians were accustomed to burning the forest over long before the white men came, the object being to improve the hunting by keeping down the undergrowth, which would otherwise shelter the game. The white man has come to think that fire is a part of the forest, and a beneficial part at that. All classes share in this view, and all set fires, sheepmen and cattlemen on the open range, miners, lumbermen, ranchmen, sportsmen, and campers. Only when other property is likely to be endangered does the resident of or the visitor to the mountains become careful about fires, and seldom even then. When fires are deliberately set, it is usually to clear away chaparral or thickets of young trees, so that sheep or cattle may range more freely.

"The light surface fire in its repeated visits to the forest, has produced the following results:

"Destroyed a large part of the reproduction on which the future of the forest depends.

"Damaged a majority of the mature timber trees. (This injury is most apparent in defective butts, but is most serious in its effects on the normal stand.)

"Persistent destruction of young growth, and more gradual, but equally sure, thinning of the mature stand has produced an open forest of low limbed trees.

"Another injury is the extension of chaparral in the forest.

"Above elevations of 4,000 feet brush patches begin to become noticeable to the forester. At first they are little, insignificant bunches in openings in the forest. The species most noticeable are Arctostaphylos patula and a thorny ceanothus, scientific name unknown. As the elevations increase, the brush patches become denser, more extensive, and more frequent. The thorny ceanothus is displaced by Ceanothus velutinus and Castanopsis Sempervirens. The abrupt transition from forest to chaparral is often remarkable. At other times the change is so gradual that all the steps are plainly shown. Fire is the agent which firmly fixes this worse than worthless mass of brush upon good forest soil.

"One or more of the species which form the chaparral are present in all parts of the forest except where perfect crown cover has been maintained for many years, and this ideal forest condition is seldom found. The chaparral species being everpresent promptly take advantage of the hindrance which the fire interposes to the reproduction of the tree species. The critical point of difference between the brush and the young trees is that the trees are totally killed by fires, which merely deaden the tops of the chaparral so that it sprouts again. Each succeeding fire burns the humus from the soil, and renders it more unfit for the production of coniferous seedlings. Gradually the mature trees, which have been burned more deeply at the butt by each succeeding fire, fall and are consumed.

"The chaparral seeds freely, and the seeds are well adapted to withstand the intense heat and consequent dryness of the California summer. The coniferous tree seeds and seedlings of the timber species require moderate shade and more soil moisture.

"Each fire fastens the chaparral more irremovably in its place. Even the very exceptional fire, which kills out some of the roots, only makes the soil more shadeless and sterile and the chance of establishing tree species more hopeless."

NATURAL SEEDING OF SHORTLEAF AND LOBLOLLY PINE OVER LONG DISTANCES

By R. R. Reynolds, Southern For. Expt. Sta.

To what distance will shortleaf and loblolly pine naturally seed in an area? How far will wind carry the seed of these two species in sufficient numbers to establish a good stand in an opening or an abandoned field? Usually the distance is within a few hundred feet of the seed trees. Rarely is the distance over 500 feet, and it is quite unusual for the distance to be over 1,000 feet. However, in one instance observed recently the distance was between 1.9 and 2.5 miles from the source of seed. Now wouldn't this make Baron Munchausen look like a piker!

In Alcorn County, Mississippi, the pine timberland occurs in two belts, one on the eastern and one on the western side of the county, extending in a north and south direction. Next to the pine area to the west is an area of bottomland and between the bottomland and the eastern pine belt is an area of upland hardwoods about six miles wide - an extension of the upland hardwood type further to the west and south. In this upland hardwood type belt are located several small, well-stocked, even-aged old-field pine stands, some of which are as much as 2.5 miles from the main body of pine timber.

There are no large pines in or near these areas and, according to the farmers who have lived in the vicinity for the past 30 to 40 years, there have never been any old pine trees of any kind closer than the main body of timber to the east. When questioned, they had no idea of how these stands originated. They just realized one day that they had some young pine growth on their land.

Exploring the different possibilities of origin, it is apparent that water could not have carried the seed to the location as the stands are on the highest points in the immediate vicinity. Birds could not have carried the seed, as some of the stands are upward of five acres in extent. And the farmers maintain that the seed was not sown by hand. Apparently the only satisfactory answer is that during seedfall an ascending current of air accompanying a strong wind or tornado had swept through the seed-bearing trees in the main body of pine timber to the east and carried the seed to the present location of the pine stands. That would be some wind, but they have them in that country.

HOW ARE IDEAS PLANTED?

We cannot resist the temptation to step out of our calm and silent and judicial role of Editor of this magazine to comment on "a prominent lumberman's" comment on Austin Cary's query in re "articles or personal contact." (See "Ye Editor Discovers")

The "prominent lumberman" is undoubtedly right in specifying personal contact as being preferable to bulletins if a choice must be made. I believe he is just as undoubtedly wrong in saying that the P. R. work of the Forest Service in the Southeast is represented by one man, because this statement assumes only one way of getting certain ideas into certain heads.

The lumberman accuses lumbermen of accepting new ideas slowly. Are they any different in this respect from the rest of us? Aren't we all intellectually tough most of the time? Haven't you given brilliant ideas to superiors (let us say); watched them rebound and apparently fall flat, and latter marveled to see them appear perhaps in slightly different raiment with the familiar face of an old friend but as the brain child of another?

The point is that ideas are like germs. They hit us, stick to us, and either develop into something worth while or sink into innocuous desuetude. How, then, does our "prominent lumberman" know how much credit to give to the personal contact of one man, and how much to the bulletins, news items, motion pictures, lectures, and other media by which ideas are planted in people's minds? The truth is that he doesn't. He may favor one medium over another and believe it to be quite adequate of itself, when as a matter of fact it couldn't have proved effective without support from various other media impacting on the subject: media of which our "prominent lumberman" knew nothing. Anyone who attempts to decide that one means is to be used to the exclusion of another in public relations work is trying to cover too much territory. We have no definite way of proving the point and I think most public relations experts would agree that every means of implanting ideas should be used. It's a tough job to get ideas into some people's heads. We need every assistance possible. But perhaps you, too, have already learned this. - H. R. Kylie.

CASH INCOME TO SOUTHERN FARMERS FROM FOREST PRODUCTS

By W. R. Mattoon, Washington

Changes in economic conditions result in new farm phases of timber probably fully as much as of any other crop. In all sections one hears how the farmers have been relying upon their timber to help out the family income.

As a source of cash income to farmers in the South in 1930, forest products cut and sold from farms ranked in fourth place among all agricultural crops. The relative rank was -- cotton, tobacco, potatoes and forest products. The farmers got more from timber than from all truck crops. The amounts, based on estimates of the Bureau of Agricultural Economics, were as follows:

Crop	Cash Income
Cotton (lint & seed)	$708,017,000
Tobacco	174,286,000
Potatoes (all kinds)	82,978,000
Forest products	82,436,000
Truck crops	81,620,000
Peanuts	21,350,000

As a source of cash income to farmers in the South in 1930, forest products ranked high among all crops. On the basis of the values of quantities actually sold from the farms, according to the above estimates the rank of forest products among all crops as a source of cash income was second in Alabama, Arkansas, Mississippi, and Virginia; third in Georgia, North Carolina, South Carolina, and Tennessee; and eighth in Florida, Louisiana, and Texas. The total amount received in 1930 from sales of timber in the 12 cotton States of the South was $82,436,000. The amounts received and relative rank of forest products among all crops by States are shown in the following table:

State	Amount received from the sales of forest products	Rank of forest products among all crops
Alabama	$9,640,000	Second
Arkansas	5,874,000	Second
Florida	1,948,000	Eighth
Georgia	9,067,000	Third
Louisiana	2,769,000	Eighth
Mississippi	6,798,000	Second
North Carolina	14,180,000	Third
Oklahoma	755,000	Ninth
South Carolina	4,424,000	Third
Tennessee	10,008,000	Third
Texas	4,694,000	Eighth
Virginia	12,079,000	Second
Total	$82,436,000	

AFFORESTATION RECOMMENDED AS UNEMPLOYMENT RELIEF MEASURE IN GERMANY

According to Deutsche Forstzeitung, the Union of German Forest Owners' Associations has recently submitted to the Government a plan calling for the afforestation of some 5,000,000 acres of idle land and low-grade agricultural land, at the rate of 500,000 to 1,000,000 acres a year. It is calculated that this will give work to 200,000 persons during the 4 months planting season, in addition to others employed in preparing the ground, building and maintaining roads, etc. The plan calls for employment primarily of settled forest laborers who are now out of work, under the supervision of unemployed foresters. Under the existing German "ECW" system, whereby the government pays subsistence plus a nominal sum for spending money at the rate of 2 marks a day (about 48 cents), it is calculated that this project will cost (on basis of 500,000 acres a year) 26 million marks annually, plus 3 to 6 million to be paid by private forest owners.

A PUBLICATION A YEAR FROM THE JORNADA

By R. S. Campbell, Southwestern For. and Range Expt. Sta.

The Jornada Experimental Range in southern New Mexico (a branch of the Southwestern Forest and Range Experiment Station since 1930), is just completing its 19th year under Forest Service jurisdiction. Since 1915, an average of one printed report on some phase of the work, or by the staff of two permanent technical men, has appeared each year. Annual reports and mimeographed material are not included. The dates and titles of the major publications show a constant effort at making the Jornada results available to all. Jardine and Hurtt started things in 1917, with U. S. D. A. Bull. 588, on increased cattle production.

Forsling came through in 1919 with U. S. D. A. Bull. 745, on supplemental feeding; and with Jardine, followed up in 1922 on range management during drought, U. S. D. A. Bull. 1031. Again, in 1924, Forsling used the Jornada results as a basis for U. S. D. A. Farmers' Bull. 1428, on saving livestock from starvation. Schoeller's "Cost of a Range Calf" in the Producer, 1927, was short but to the point. Then came Campbell's two studies of plant succession from a range viewpoint, the mesquite sandhills, in Ecology, 1929; and on clay soils in Jour. Agric. Res., 1931. In 1933, Campbell was joint author on two sections of the completed Copeland Report: "Forest Ranges", and "A Forest Range Program". Other shorter articles by E. W. Nelson, Campbell and R. H. Canfield, fill out the number to 19 printed publications.

Four technical papers were presented at the 1928, 1931, and 1932 Christmas meetings of the American Association for the Advancement of Science, attendance at which was on personal expense of the author. Five papers were presented by Jornada men at the 1933 Southwestern Division meeting of the American Association for the Advancement of Science.

Nelson's black grama bulletin has received final approval and is in the hands of the Government Printer. Canfield's article on the Jornada clipping studies, to appear in the Jour. Agric. Res., will be next. Campbell and Bomberger's article on snakeweed has been accepted by Ecology, and the grazing capacity bulletin, by Chapline, Schoeller, and Campbell should appear within the next two years. With four other shorter articles already submitted to journals, the prospect for keeping up the Jornada batting average of at least one printed report a year is very bright indeed.

YE EDITOR DISCOVERS

A query by Austin Cary of a prominent lumberman in the Southeast, as to whether or not published articles or bulletins are an effective means of bringing to the attention of the public various forestry problems and practices, brought the following reply:

"You asked for comments upon the set of articles. There can of course be no question of the need of this information being placed in the hands of the industry. You know, however, fully as well as I that those engaged in this industry accept new ideas very slowly. Not so much because they question their value as because it is the general attitude to resist any change and it is only as continually and repeatedly dropping these ideas first in one form and then in another that some of them are taken up. But when once adopted the industry is as reluctant about dropping them as they were before.

"As far as writing these as personal opinions, by all means continue to do so. The very fact that these suggestions represent your personal recommendations and your personal opinion are their strongest features. I have repeatedly said that as far as the Southeast is concerned the public relations work of the Forest Service is represented by one man. This is not intended to be a slam of the policy of the Forest Service, but it does actually represent conditions as I see them. The people that you are trying to help are of that type that require personal contact. After the idea has been presented through personal contact and what might be termed demonstrated they are more willing to look at the idea in printed form, but to merely send them a bulletin I feel makes very little headway.

"Therefore, making it as near personal as you can I believe inspires more reliance than if it was sent to them as just a regular government publication."

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Fresh evidence is developing in support of the maxim that "It never rains but it pours." In addition to an unprecedented job of managing productive work from ECW camps there is pending also an unprecedented amount of work to be done on the National Forests from funds from the national industrial recovery for public works act. On top of all that comes a letter from the Federal Relief Administration asking for suggestions as to desirable projects on National Forests which could be inaugurated by State relief administrators. A representative of the Service conferred with Mr. Jacob Baker of the Federal Relief Administration and told him that we have our hands pretty full as it is. However, the relief administration will transmit names of State relief administrators and these will be forwarded to the Regional Foresters concerned, with a suggestion that contact be made with these administrators and cooperation of the Forest Service tendered to the extent that may be practicable and desirable under the circumstances in each State. The Forest Service naturally wants to contribute its bit to national recovery and it wants that bit to be a material one, but there are limits to what even the Forest Service can undertake to manage in a way which would be creditable to all concerned.

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Arkansas has been added to the States cooperating in forest fire protection work under the terms of Section 2 of the Clarke-McNary Act, an agreement between the Department of Agriculture and the Arkansas Forestry Commission having been signed on July 19. This adds a State of large forest importance to the other 38 States which are already actively engaged in this work.

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Amid the discouragement and disappointments of ECW it is refreshing to have an occasional piece of extra good workmanship to chalk up to the credit of the Forest Service. A great preponderance of the master strokes of ingenuity, skilful negotiations, or outstanding management is undoubtedly occurring in the far-flung field operations of the Service, but the little Washington Office also has something to be proud of now and then. The latest illustration is in connection with a purchase of some 140 graders for use out of State ECW camps. The first invitation to bid did not develop what was considered to be fair prices. A second invitation produced no better results. With practically nothing in the way of trading advantage and with very weak support from his advisers, Jack Haile contended that there still was a chance to get a fair price. As a result of fast but intricate negotiations, a trip to Chicago to meet the grader industry, and a third set of telegraphic bids, the graders were finally purchased at approximately $11,000 less than they would otherwise have cost. This was done without delaying by a single day the shipment of the graders.

The "New Deal" includes some evidences of fast and whole-hearted cooperation on the part of various Federal agencies in Washington which help to sustain the morale of the Washington Office. During recent years the difficulty of transacting business with the Civil Service Commission has been extreme. At the present time, however, the attitude of the Civil Service Commission and all its staff is so cooperative and so willing to supply the utmost in the way of prompt and speedy service that it sometimes is hard to believe that things are now as they are.

Another instance concerns purchase of $170,000 worth of tractor trail builders from FRD. In the afternoon of July 31 the Forester approved the purchase. It was realized that approval of the Department would have to be secured because the waiver of the fiscal regulations neither applied to purchase from FRD nor from regular appropriations. Telephonic conferences with men in the Department brought a request for a written statement of what was wanted. This was delivered to the Department about 5:15 that evening. By 10 o'clock the next morning the memorandum was back in the Forest Service with the necessary O. K., and the purchase orders, which had already been prepared, were promptly mailed.

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One may not say the speed and cooperation are all that could be desired in every instance, but there are an increasing number of evidences of fast and whole-hearted cooperation which are very cheering to the men who have to conduct the business of the Service with other Federal agencies.

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The Executive Order requiring that unless otherwise directed by Mr. Fechner all purchases in excess of $2500 should be approved by him is still the subject of correspondence and consideration. It is hoped that the last submission will be approved and that no purchases in excess of $2500 will have to be transmitted from the field for review and approval in Washington.

A similar situation with respect to the Department is likewise still under consideration. A waiver of the Departmental fiscal regulations was withdrawn effective August 1 for reconsideration. If this withdrawal is confirmed it will be necessary to have all purchases in excess of $2500 for road and fire fighting work approved in the Division of Purchase and Sales and purchases for all other purposes in excess of $1000 approved in Washington. It is hoped that the waiver will be renewed to December 31, but at the time this is written (August 2) no decisive action has yet been taken.

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"Stand Improvement in the Southern Appalachians", ECW Forestry Publication No. 1, prepared by Andy Frothingham and his crew, has just appeared. Designed to meet the specific problems of the cultural camps in the mixed hardwood forests of the Southeast, it offers some practical suggestions for work in other sections of the country as well. A limited supply of this publication is available to meet field requests.

A NEW GAME

Among the diversions that have crept into the office end of the ECW is the fascinating game of decoding cryptic telegrams directing deletions from the surplus equipment lists. Some of us who never were attracted by cross-word puzzles have fallen hard for this new game. It is not as easy as you might think. If you don't get started right you are sure to have a digit left over at the end with no place to put it. In most, if not all, cases there is only one way you can work the game and come out even at the end.

Competition is keen to determine who can work one in the shortest time. The record so far is 11 min. 13 sec. Modesty forbids mention of the name of the record holder, but perhaps he drew an easy one. The game seems to offer possibilities, if properly exploited, as a parlor game. - C. F. Evans, Clarke-McNary Inspector, Southeastern States

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 18 Washington, D. C. August 28, 1933

THE ADVENT OF LEISURE

(Secretary Henry A. Wallace in Extension Service Review)

We have worked too hard in this country. It was a new country, ours for the taking; so overwork was natural. We made a virture of intemperate greed and effort. Our march of pioneer conquest, if you examine it candidly, was not unreservedly glorious. The youngest of us who grew up west of the Alleghenies on farms less than a century subdued know all too well how bitterly some of those largest, finest farms were cleared and won. Many a pioneer patriarch wore down and killed two or three wives by the time that, having progressed in ownership from a quarter section to two or more full sections, and loans to half a township, he died. And that was not the whole story of his triumph. He often made slaves, perfectly legally, and with sanction of church and society, of his children.

And he himself died, very often, before he or his family had learned how to live. A country was here to be occupied and subdued. Toil was holy. It was wrong to sit in the shade and dream; it was wrong to go fishing in working hours; it was wrong in thousands of farming communities for a farm family to stop overworking and gorging the market. It still is considered a little shameful in thousands of communities for a farm family to burn gas on a pleasure trip to the sea or up into the mountains for a week or so.

We have believed that leisure is wrong. There was a reason for this. In old days the utmost activity paid manifest returns. Those returns often were dearly bought; health was broken; imagination was stunted by endless drudgery; children came into the world crippled and weakened because their mothers while carrying them had worked too hard. I do not know now that we are fit for leisure; but I believe that now that we are turning our minds around, and discovering that overwork does not pay, neither in money nor in any other sense, we will not continue to make a fetish of overwork. We shall learn as individuals to value and to improve ourselves. We shall see that it pays to sow less, and take better care of it, and take better care of ourselves and our children. We shall learn to rest part of our land and to rest ourselves part of the time.

I do not think that we shall have to plan or organize the new leisure which an organized turning away from headlong pioneer expansion of enterprise will bring to America. The thought of organizing another man's or woman's private and personal existence is repugnant to me. But I think that all men and women should have the chance to do and think and dream as they please part of the time, not for money, not for fame, but simply because they want to; and I believe that most of us, once the opportunity is afforded, will discover within ourselves a wide variety of stimulating and pleasant things to do.

COVER TYPE AS A FACTOR IN FOREST FIRE PROTECTION

By J. A. Mitchell, Lake States For. Expt. Sta.

An analysis made of Michigan forest fire reports for the years 1928 to 1932, inclusive, shows that, for the State as a whole, only 0.9 percent of the area burned was merchantable timber while 47.3 percent was second growth and 51.8 percent was non-timbered. The most significant fact brought out, however, is the preference of fires for aspen-birch second growth and grass plains, the former making up 25.2 percent and the latter 30.4 percent of the area burned. While this is largely due to the prevalence of these types, the analysis in question serves to point where the bulk of the protection problem lies. The figures by types are as follows:

Distribution of Area Burned by Cover Types Michigan – 1928–32

	Percent	Percent
Merchantable timber		0.9
Second Growth		47.3
White and Norway Pine	0.8	
Jack pine	3.7	
Mixed hardwoods	8.0	
Oak	5.9	
Aspen and birch	25.2	
Swamp timber	3.7	
Non-timbered		51.8
Grass plains	30.4	
Grass swamp	11.9	
Fresh slash	8.6	
Pasture and hayland	0.9	

Based on the best figures available as to the area of the various types under protection, the percent of each type burned over on the average in Michigan is as follows:

	Percent	Percent
Merchantable timber (all types, including sawtimber and cordwood stands, weighted)		0.04
Second Growth (all types, weighted)		0.64
Pine	.89	
Northern hardwoods	.50	
Oak and Oak-Hickory	1.00	
Aspen	.73	
Swamp timber	.28	
Non-timbered (all types. weighted)		1.74
Upland	1.59	
Swamp	2.68	
All types combined (weighted average)		0.79

These figures are of particular interest in that they show the risk of burning or relative hazard prevailing in each of the types in question. They may also be taken as indicating the effectiveness of present protective effort by types.

At present Michigan is spending on the average 3.5 cents per acre for protection. If we can assume that area burned varies inversely with the expenditure for protection on the basis of the above, the outlay necessary to limit the area burned to one-half of one per cent would be as follows:

	Cents Per Acre	Cents Per Acre
Merchantable timber (all types included weighted)		.3
Second Growth (all types, weighted)		4.5
Pine	6.2	
Northern hardwoods	3.5	
Oak and Oak-Hickory	7.0	
Aspen	5.1	
Swamp timber	2.0	
Non-timbered land (all types, weighted)	12.2	
Upland	11.1	
Swamp	18.7	
Or for Michigan as a whole an average of	5.5	

On the basis of the above and the area of the various types represented, adequate protection (defined as protection sufficient to limit the area burned to half of one percent) would cost Wisconsin 5.1 cents per acre, Minnesota 5.6 cents per acre, and the Lake States as a whole 5.4 cents per acre. At present, however, Wisconsin is spending 2.8 cents per acre and burning over 1.99 percent of the area protected while Minnesota, with an average annual expenditure of 2.34 cents per acre, is burning over 1.65 percent of the area protected. This would indicate a required expenditure of 11.1 and 7.3 cents per acre, respectively, to provide adequate protection. It is evident from this that either Wisconsin and Minnesota are getting less protection per dollar expended or that the climatic hazard in these States is higher than in Michigan. A comparative analysis of weather records will be necessary to settle this point. In the meantime, 5.5 cents per acre as the average cost of adequate protection would appear to be conservative.

HAS THE TIDE TURNED?

By E. E. Carter, Washington

For the first time in three years, timber sale receipts for a quarter year, April-June 1933, exceeded those for the corresponding period in the previous fiscal year. The timber sale receipts for this fourth quarter of F.Y. 1933 were $253,101.33, or $86,435.14 in excess of those for the fourth quarter of F.Y. 1932, a gain of 52 percent. Regions 1, 2, 3, 4, 6, 7 and 9 contributed to this increase. Region 5 showed a decrease of about $15,214 for the quarter, and Region 8 had refunds totaling $40,000, and an additional loss of about $744. These losses amounted to $55,959. Gains in the other seven Regions totaled $142,394, leaving the increase for the National Forests as a whole the $86,435 mentioned previously.

This gain in the last quarter was small compared with the decrease accumulated during the period July 1932 to March 1933, and for the entire fiscal year the decrease was $265,469.58, or about 26 percent. However, it comes after three years of continuous decreases, comparing each quarter year with the same period in the previous year, and one of the most encouraging things about it is the participation in it by all Regions except California and Alaska.

National Forest Timber Sale Receipts

Percentage Gain or Loss compared with Previous Fiscal Year.

	F.Y. 1931				F.Y. 1932				F.Y. 1933			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
By Quarter Years	-28	-41	-53	-52	-49	-61	-66	-73	-62	-8	-20	+52
Cumulative for each Fiscal Year	-28	-34	-38	-42	-49	-54	-56	-59	-62	-45	-41	-26

VACANCY AT THE UNIVERSITY OF MAINE

The death of Prof. John M. Briscoe has created a vacancy in the deanship of the Department of Forestry at the University of Maine at Orono. The University is now inviting applications for the position. The position carries a maximum salary rating of $4,000 per annum, with a present temporary reduction of 12½ percent.

The stipulations are that candidates should be well trained in forestry. They should have a Master's degree, and preferably a doctorate. They should have executive attainments, teaching ability, and practical field experience in forestry.

Applicants should send to Dean L. S. Merrill of the College of Agriculture: (1) a transcript of their collegiate record; (2) a full list of teaching, practical and/or executive experience; (3) a resume of any research activities and interests; (4) a list of their publications with reprints; (5) a list of professional societies of which they are members; (6) recent photograph, biographical sketch, and recommendations.

"MODERN CONNECTORS FOR TIMBER CONSTRUCTION"

(Based on a review by C. Stowell Smith, National Lumber Manufacturers Association)

This publication of the U. S. Department of Commerce represents the results of a joint investigation conducted by the former National Committee on Wood Utilization and the Forest Products Laboratory of the Forest Service.

Modern connectors, as described in the report, are devices for increasing the efficiency of timber joints. They consist of metal rings or plates or wood disks that, embedded partly in each member, transmit loads from one structural wood member to another. By means of connectors, hundreds of important wood structures of every conceivable kind have been and are being erected abroad. These include radio towers up to 460 feet in height, bridges over 1,000 feet long, and auditoriums seating 75,000 persons.

The use of modern connectors permits the utilization of lumber of smaller size and lower mechanical properties. The superiority of our native species over many foreign woods for construction is stressed and is illustrated by the fact that some American structural woods are imported by European countries for modern connector construction in spite of a general policy of prohibition against foreign woods.

"Modern Connectors for Timber Construction" points the way for the lumber industry to regain some lost markets and to develop new ones and the industry is ready to grasp the opportunity.

Copies of this bulletin may be purchased from the Superintendent of Documents. Government Printing Office, Washington, D. C., for 15¢ each.

GERMANY'S PUBLIC WORKS PROGRAM

(From a letter by Arthur C. Ringland, dated June 9)

The Under-Secretary in the Ministry of Finance of the German Reich has just made announcement of a public works program approved by the Cabinet on May 31, 1933.

The Ministry of Finance is authorized to issue labor Treasury bills (without interest) to the amount of 1 billion Reichsmarks (238 million dollars at par), which will be placed at the disposal of the Corporation of Public Works through allotments made for approved projects by the Ministry of Labor to the various states and communities. The Treasury bills are discounted by the German Building and Land Bank which, in turn, discounts them with the Reichsbank.

The retirement of the issue of a billion marks is provided for in the ordinary Reich budget spread over five years from 1934 to 1938 to the extent of 200 million marks a year. The Government believes that the budget in these years will enable the repayment of the issue without difficulty. Nevertheless an amortization fund will be provided by the payment of amounts from various sources by the states and communities.

The Government plans to make loans only for works of general economic usefulness to be carried out so far as possible by manual labor. The program as a whole will be initiated not later than August 1, although it is expected that 400,000 men will be at work within a few weeks, and that there will follow a considerable revival in many branches of industry - particularly the building industry.

The more important sections of the law outline measures to promote construction and repair work on public buildings, bridges, city and farm dwelling houses, suburban and farm settlements, regulation of water-courses, drainage and road construction, and the erection of gas, electric power and water plants. Farmhouse repairs and municipal utility plants will be made possible by subventions instead of loans. Expenditures for the replacement of factory machinery and similar equipment are encouraged by deduction from tax returns. To reduce the number of females employed in industrial employment and to encourage their absorption in household employment exemption is granted from unemployment insurance payments and other taxation favors are granted.

YE EDITOR DISCOVERS

Secretary Wallace on August 2 approved the apportionment of $15,000,000 for Forest Highways and $10,000,000 for Forest Improvements as made available under the National Industrial Recovery Act. The former was apportioned in the same manner as regular Forest Highway funds have been apportioned in the past, that is, in accordance with the areas and value of the National Forests. The latter was apportioned in accordance with the estimated utilization of appropriated funds required for Forest roads and trails.

According to the law these amounts are to be expended in the same manner as the Emergency Forest Highway and Improvement funds of 1932. Forest Highway programs based on a $5,000,000 apportionment had been received from a number of the National Forest States. The following allotments were approved by the Acting Secretary of Agriculture on August 3: - Arizona, $330,000; California, $746,000; Colorado, $437,000; Idaho, $556,000; New Mexico, $210,000; South Dakota, $45,000; Utah, $190,000; Washington, $820,000; and Wyoming, $286,000. Programs for the remaining National Forest States and additional programs for the above States will be approved as soon as recommendations prepared by representatives of the State Highway Commission, Forest Service, and Bureau of Public Roads are received.

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Major Stuart accompanied the President's party on visits to five National Park and State conservation camps in the Shenandoah valley and mountain section of Virginia, August 12. President Roosevelt was greeted heartily by the members of the C.C.C. and shown some of the recent work in road and telephone line construction, thinning operations and in camp construction. Department of Agriculture camermen accompanied the party and took motion pictures.

The principal speech was delivered at Camp Fechner, where the President expressed his delight with the fine physical condition and happy appearance of the men and with the reforestation work they are doing.

"All I have to do is to look at you boys to see what a success the camps are," President Roosevelt said. "I wish I could take two months off from the White House and come down here to live with you."

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The forms for reporting accomplishments by individual ECW camps are coming in. Tabulation summarization becomes an elaborate undertaking. Mr. Fechner's office has requested that the Forest Service undertake the job. The use of Hollerith tabulating machines is being considered. The cost for machine rental and operators will be in the neighborhood of $1,000 a month. A member of Mr. Fechner's office has suggested that the Census Bureau might use its personnel and equipment effectively on this job. This arrangement is favored by the Forest Service and will be carried out if the Census Bureau agrees, but a well-qualified man of National Forest experience is needed to review the reports and see that they are in proper form for the mechanical process of card punching and tabulating by machinery.

The monthly reports by camps do not carry a distribution by activities of man-days expended. Current records are being kept in all camps of man-days expended on the various kinds of work done, and at the end of the season these data will be compiled and determinations made of expenditures in money, or at least in man-days per unit of accomplishment. To date, accomplishments for the number of men released by the various camp commanders are very disappointing. It is hoped that later months of EC work will show a higher rate of accomplishments for the men released for productive work. Unless the output of results is materially increased the Service will have some difficult explaining to do later on. Regional Foresters are being urged to leave no stone unturned to get the maximum of work out of the personnel released to the Service despite the various handicaps and retarding conditions under which the work must be done.

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For administrative convenience our different Nira appropriations have been given nicknames. The $15,000,000 for highway construction on the National Forests is dubbed "Hynira". The $10,000,000 for construction of development roads and trails is dubbed "Devnira". The $15,982,745 for improvements and for miscellaneous activities is dubbed "Impnira".

The delay in release of the Devnira and Impnira funds is reported to be due to the Comptroller's office. The Comptroller is said to be requesting data on which the special board of public works bases its decisions in allotting funds for public works. Reasons for the participation of the Comptroller's office in decisions by the board are not clear. Release of these funds is expected at any time but may be delayed indefinitely. The Washington Office has been told so often that different funds would be released "tomorrow" that "manana" money has become a current term for funds which have been expected daily for weeks or months.

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A questionnaire to determine how much seed has been sown this year for erosion control and other operations has been sent to the various State Foresters. This has resulted in the discovery that Indiana sowed approximately 10 tons of locust seed this past year. Consequently some thirty million suitable trees will be available this fall. Kentucky, Mississippi, and other States have developed a very large program. Just how much stock will be produced will not be known for sometime. In the meantime, estimates are being prepared as to the total seed required for the planting season 1934-35. The Tennessee Valley Authority alone estimates their needs at some ten thousand pounds. A wide variety of species is being considered, ranging from black locust to black walnut and from slash pine to red spruce.

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The fire season so far this year has been a comparatively easy one. Rains in Region 1 are reported practically to have broken the back of the 1933 fire season, at least in the western portion of the Region. The total area burned over to August 10 was 51,000 acres. FF expenditures for the calendar year up to August 10 are $164,000 compared to $248,000 for the same period of 1932 and $1,415,000 for the same period of 1931. It is probable that the presence of many thousands of ECW men on the Forests has restrained incendiarism. Fire fighting by the ECW boys has been spotty. Reports are highly favorable in some cases and very disappointing in others.

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The President has approved the ECW forest research program. This provides for investigations in forest and range management, forest economics, and erosion control. It is impossible, however, to initiate any active field work under this program because funds have not yet been allocated by the Bureau of the Budget for this purpose.

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Plans are under way for several ECW publications. One has already been issued, as reported in the last issue of the Bulletin. Another on stand sanitation is ready for the printer, and a third, a handbook for soil erosion control work, is now being written. C. R. Hursh of the Appalachian Forest Experiment Station is heading this work up and is now in the Washington Office compiling the information, which has been collected from a wide variety of sources. A popular leaflet describing the ECW program and its objectives has gone to the printer.

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A silk manufacturer in New York City is planning to feature neckties and other articles made up of what will be called "timber prints". The designs are being adopted from photographs of the grain and cross-sections of various species of wood, which the company purchased from the Forest Service.

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Robert Marshall, formerly of the Northern Rocky Mountain Forest Experiment Station, has just been made Director of Forestry in the Indian Service, Department of the Interior. Dr. Marshall is known to many foresters not only because of his work in the Northwest but also because of his varied activities. Among these was an exploration trip in northern Alaska, following which he wrote one of the best sellers of the past year, entitled "Arctic Village."

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E. C. M. Richards, who was formerly in the Forest Service but who has been for many years engaged in consulting forestry work in the East, has just been appointed Forester for the Tennessee Valley Authority.

THE PASSING OF THREE FORMER SERVICE MEN

During the past month Theodore S. Woolsey, Jr., John Bentley, Jr., and John M. Briscoe, each in his prime, met death -- by his own hands, through lingering illness, and by accidental drowning, respectively. Formerly Woolsey was chief of silviculture at Albuquerque, Bentley a deputy supervisor on the Shoshone and White River Forests, Briscoe in cooperative work in the Washington Office. Most recently Woolsey was a man of affairs, Bentley, professor of forestry at Cornell, and Briscoe, dean of forestry at University of Maine. All were Yale Forest School graduates, '03, '07, and '09, respectively.

FOREST MINDED PEOPLE

Much is heard now-a-days about reforestation. Almost as much about "reforestration", even in the upper stratum. In a recent letter from one of the North Central States, the writer used the word "reforistoration". A person in one of the Gulf States during a conversation said that he was interested in "reforesterization". - W. R. Mattoon

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 19 Washington, D. C. September 11, 1933

THE CCC IN 8TH CORPS AREA

By Jno. D. Guthrie, Liaison Officer, 8th C. A.

For purposes of the CCC, the 8th Army Corps Area includes Wyoming (with the exception of the N.W. corner), Colorado, Arizona, New Mexico, Oklahoma, and Texas.

Early in this CCC game, Commanding General Edmund B. Winans was given a definite mission; namely, that his Area would be a self-contained unit, that no men would be shipped into it from other Areas, nor any shipped outside, and that within the Area he would dispose of the men as between States and camps as he thought best.

This mission or objective was the basis of Corps plans and all normal enrollees were in 119 camps by June 24, one week prior to July 1. In addition to the 119 camps for normal enrollees, the Area was allotted 10 Veterans companies, to be enrolled in late June and early July. These Veterans companies were all enrolled and in camps before July 12.

The total of 129 camps of the Area is distributed by the six States as follows:

Wyoming	- 11 camps - 9 National Forest; 1 Public Domain, and 1 Private land camp.
Colorado	- 29 camps - 23 National Forest; 4 National Park and Monuments; and 2 State or Municipal Park Camps.
Arizona	- 23 camps - 21 National Forest and 2 National Park camps.
New Mexico	- 16 camps - all on National Forests.
Oklahoma	- 16 camps - 3 National Forest, 1 National Park, 1 State Park, 2 Stete Game Preserves; 5 Soil Erosion; 4 State Forest (cooperative private forst lands.)
Texas	- 34 camps - 12 State Forest (and cooperative - private forest lands) 15 State Park; 7 Soil Erosion.

The 10 Veterans Camps are divided; Colorado, 2; Arizona, 3; Oklahoma, 1; Texas, 4.

The 8th Corps Area camps range in elevation from the Tres Palacias, a National Guard Area in Texas, at sea-level, on the Gulf of Mexico, to Grande Lake, within the Rocky Mt. National Park, Colorado, over 10,000 ft. above sea-level.

There are two camps in the Davis Mountains of west Texas, and three in Palo Duro Canyon of northern Texas, an area once covered by an intensive survey by Federal forest officers. There is one camp on the famous Wichita National Forest in Oklahoma, but perhaps the most unusual of all is the one in Little Thunder Basin, on the public domain of eastern Wyoming.

In this treeless area of Wyoming are numerous exposed deposits of lignite. During years past, from one cause or another, many of these exposed coal ledges have caught fire and have been burning ever since. The job for the CCC boys here is to put out these fires which are destroying valuable natural and publicly-owned resources - this will be real conservation.

With the adoption of the self-contained unit plan as mentioned above, many CCC men were sent to other than their home States. Many camps in Wyoming and Colorado are manned by Oklahoma boys; most of the camps in Arizona are made up of Texans. There are also Texans in New Mexico and Oklahoma.

Some Spanish-Americans are in Texas and Oklahoma, and the several hundred negroes enrolled are scattered in small numbers per camp in Oklahoma, Texas, Arizona, and New Mexico, and, incidentally on the whole have given no trouble.

While there have been some protests from son-sick mothers, on the whole these boys who were sent outside their home States have been most pleased to see new country, new conditions, and new faces; they will all be broadened and benefited by this change of environment.

The Army in this Corps Area has done and is doing a splendid job, from the Commanding General down to the Lieutenant in the CCC camps. Its responsibilities as to health, camp sanitation, food, and welfare are being taken very seriously, and universally the Regulars are keenly interested in this brand-new work for them.

There are fine working relations between the Camp Commanders and the Camp Superintendents in the 23 camps I have just inspected in Oklahoma and southeastern Texas.

The morale of the men is high, they are finding themselves, and are doing a big job of really worthwhile and lasting conservation work. The spoiled, home-sick, girl-crazy, lazy, and trouble-making boys have largely been weeded out of the camps, or have "gone over the hill", and the men now in the camps are brown as Indians, are getting huskier each day, and the proud boast of many a camp is "We Can Take It!"

LUMBER CODE PROVIDES FOR FOREST CONSERVATION

The following article of the Code submitted by the lumber industry under the National Industrial Recovery Act has to do with forest conservation and sustained yield:

"Art. X. The applicant industries undertake, in cooperation with public and other agencies, to carry out such practicable measures as may be necessary for the declared purposes of this Code in respect of conservation and sustained production of forest resources. The applicant industries shall forthwith request a conference with the Secretary of Agriculture and such State and other public and other agencies as he may designate. Said conference shall be requested to make to the Secretary of Agriculture recommendations of public measures, with the request that he transmit them, with his recommendations, to the President; and to make recommendations for industrial action to the Authority, which shall promptly take such action, and shall submit to the President such supplements to this Code, as it determines to be necessary and feasible to give effect to said declared purposes. Such supplements shall provide for the initiation and administration of said measures necessary for the conservation and sustained production of forest resources, by the industries within each Division, in cooperation with the appropriate State and Federal authorities. To the extent that said conference may determine that said measures require the cooperation of Federal, State or other public agencies, said measures may to that extent be made contingent upon such cooperation of public agencies."

"The industry is to be congratulated," says Secretary Wallace, "for its breadth of vision in providing in the code for perpetuation of the forests. The carrying out of this program will go far toward preventing further destruction of the forests and toward making lumbering a permanent industry instead of the migratory one it has been in the past. Moreover, adoption of the principle of sustained production will help materially to maintain a reasonable balance between production and consumption of timber products and thereby to put an end to the uncontrolled overproduction which has been so disastrous to the industry."

COMMISSION APPROVES PURCHASE OF 274,000 ACRES OF FOREST LAND

Purchase by the Federal Government of more than 274,000 acres of forest land was approved by the National Forest Reservation Commission at its meeting on August 30. The purchase program approved covered 30 units, located in 17 States east of the Great Plains. The total cost of the lands to be acquired will be approximately $546,000.

In addition to the 274,000 acre purchase program, the Commission approved the establishment of new purchase units in Michigan, Minnesota, Illinois, Missouri, Florida, and Mississippi.

Enlargements of gross boundaries for the following National Forests and purchase units were approved: Marquette, Hiawatha, and Ottawa National Forests in Michigan; Superior and Mesaba Forests in Minnesota; Alabama National Forest, in Alabama; Ozark National Forest, Arkansas; Monongahela National Forest, West Virginia; Luquillo National Forest, Puerto Rico.

WHAT SOME OF THE CCC BOYS ARE DOING

Region 1

Reports from camps on every front show progress. Miles of forest roads are being built and reconstructed. Telephone lines and range fences are being erected and public campgrounds are taking shape. From a score of camps in northern Idaho comes word that men have speeded up work on blister rust control. Steel and wooden bridges are being thrown across creeks and rivers and underbrush and stumps removed from sites set aside for emergency airplane landing fields.

Every so often, the daily routine of work has been broken by emergency calls to fight forest fires. The young workers drop their tools or whatever they are doing to make long hikes to the scene of the blaze. They are the front-line shock troops on forest fires and many a dangerous blaze has been stamped out by these men so far this season.

Reports from the five camps in the Cabinet National Forest indicate that work is progressing rapidly on truck trails, telephone lines, and bridges. A crew from Camp F-9, near Haugan, Montana, is employed in the Forest Service Nursery transplanting trees and arranging seed beds. Approximately 800 telephone poles have been cut by crews from Camp F-8, located near Noxon, Montana. Each of these camps has a first-class smokechasing unit, which is ready at all times to answer emergency calls to fight forest fires.

Four public campgrounds have been cleared by enrolled workers from Camp F-11, near Red Lodge, Montana. Eight more campground sites are on the camp's work program. The men have also been busy clearing a right of way for a forest road. A creosote plant is in operation for treating telephone poles, fence posts, and other building material.

Crews from Camp F-15 at Coram, Montana, have completed four miles of the new Desert Mountain road and are now constructing ten miles of the South Fork road.

Four steel bridges are being erected by workers at Camp F-5, located near Tally Lake, Montana. One mile of the Logan Creek road is completed. The men are also clearing a right of way for two miles on the Logan and Shepherd Creek road and reconstruction work has started on six miles of the Tally Lake road.

The Stillwater State Forest Camp No. 201 reported that crews from this camp have completed a road in the Upper Whitefish district and that work is well along on several other smaller projects.

Crews from Camp F-3, located near the Allen Ranger Station in the Bitterroot National Forest, are credited with six miles of road work on a truck trail, aside from necessary work on camp construction.

Courses in "Elementary Forestry" are a part of the educational program outlined for men in three Emergency Conservation Work camps in the Cabinet National Forest. Eighty young men attended the first class held recently at Camp F-10, located near Trout Creek, Montana. Forest Ranger W. W. Coleman, camp superintendent, is in charge of forestry classes and at the first meeting described the duties of a Forest Ranger.

A similar course of study will be inaugurated for men at Camp F-8 at Noxon, Montana, under Ranger G. H. Duvendack, and at Camp F-24, on Vermillion Creek The young forest workers have shown a keen interest in forestry work, it is reported .

Region 2

Although, in most instances, establishment of the CCC camps was not begun until well in June, and the rest of that month was largely spent in making camp and implementing the men with tools, equipment, and means of transportation, reports received from the superintendents of the 23 camps operating in the National Forests in Colorado, manned by 4,579 recuits, show remarkable progress, considering the general lack of previous experience of the men in similar work. Not all the 4,579 men enrolled are engaged in the constructive phases of the work; a considerable percentage necessarily is charged with overhead work, such as cooks, camp tenders, clerks, and commissary officers, as well as persons on sick leave.

Tangible accomplishments and completed jobs to July 31 in the principal activities consist of the construction of 15 miles of telephone line; 9 miles of firebreaks; removal of fire hazards from 402 acres; roadside clearing along 85 miles; improvement of forest conditions on 4,300 acres; roads and trails constructed or reconstructed, 4,000 miles; man-days spent in suppressing forest fires, 120 ;soil erosion control on 6,700 acres; clearing public grounds, 48 acres; construction of latrines for public campgrounds, 16; waste disposal on public campgrounds, 11; construction of fences of various kinds, 33 miles; rodent control on 70,750 acres; acres surveyed and mapped, 2,530; forest planting, 140 acres; bridges of various kinds and sizes constructed, 9; searching for lost persons, 12-man-days; flood control work 6,300 cubic yards; public campgrounds improved, 9; water developments, 2; eradication of poisonous plants on 90 acres; insect pest control on 5,740 acres; reservoirs constructed, 1; forest boundary survey and marking, 15 miles; tree and plant disease control on 140 acres; forest tree nursery, 240 man-days; 18 flood control dykes; tool houses constructed 3; office buildings constructed, 1; temporary dwelling houses constructed, 23; and fire lookout houses constructed, 3. Besides this completed work, about fifty percent more of similar character has been about half completed, and innumerable small jobs of a miscellaneous character, not included in the list, have been completed. In addition, extensive repair and maintenance work on existing improvements have been done.

Region 5

Reports from 128 CCC camps show that in less than six weeks after the camps have been fully established. the 18 National Forests in California have been aided administratively by the construction and maintenance of 381 miles of forest roads, 379 miles of telephone line and the erection of 105 buildings.

Forest fire protection has been strengthened by the construction and maintenance of 463 miles of truck trails, 82 miles of firebreaks, and 77 miles of fire lines, clearing of inflammable material from 99 miles of road, and the felling of 464,000 snags. In addition, the CCC is furnishing the Forest Service an organized fire fighting force long needed for the protection of California forests and watersheds, which is becoming more efficient as the men become accustomed to this form of warfare. To date, the cost of fire fighting in the National Forests of California is $19,086 as compared to the five-year average of $90,465, a reduction of 80 percent.

Recreation has been aided by the clearing of 2,599 acres of public campgrounds and the development of water and camping facilities. Grazing resources have been conserved by the poisoning of rodents on 403,935 acres and the building of 350 check dams to prevent the erosion on mountain meadows. Numerous other projects have been started in various lines of forest work, and much work has been done which cannot be classified but which will appear in later reports.

The personnel of each camp is no longer an aggregation of 212 boys but is now divided into crews and groups according to the inclination and ability of the individuals. Many of the men are developing skill in specialized handling of tools ,such as the use of axes falling saws, etc. The Army officers who have charge of camp administration and look after the health, recreation, and morale of these boys have a personal interest in each member of the company. The Forest Service camp superintendents and foremen who have charge of the field work cooperate with the company commander in placing each man where he will accomplish the best work. The practice of paying higher wages to leaders among the CCC has resulted in incentive for increased efficiency and development among the members.

"There's music in the air." Yes, sir, two camps have pianos. Mrs. J. R. Welborn of Goleta contributed a piano to Los Prietos Camp, F-118, Santa Barbara National Forest, and The Rotary Club presented one to Rush Creek Camp, F-96, Sierra National Forest. Now both camps have orchestras and are putting on some splendid programs.

From a "nest" one hundred feet from the ground in a large fir tree, William T. Martin of Hilt Camp, F-23, Klamath National Forest, made a birdseye drawing of the camp during his evenings after work. The sketch was voted the official camp picture and is being photographed so all the boys can have a copy.

The evening school courses in Spanish, arithmetic, English composition, psychology and fundamentals of law being held at Strawberry Camp F-85, Stanislaus Forest, are showing a steady increase in attendance,

Leaving camp perspiring, to return with frost bitten hands, and cold feet was the experience of the road crew from Oak Knoll Camp, F-19, Klamath National Forest, who were assigned to shoveling snowdrifts off a road only 16 miles from their camp, where the temperature registered 90° when they left at 8:00 a.m.

Mr. Eugene Tully, Forest Service veteran, took 40 CCC boys of Patton Mill Camp, F-39, Mendocino National Forest, to Bald Rock Lookout Station where Fred Whitlock, Forest Service lookout, explained the methods used in locating forest fires, reporting them, charting their progress, and the use of Forest Service topographical maps.

Professional athletes, plumbers, electricians, entertainers, executives, foresters, carpenters, naturalists, cooks, waiters, butlers, cobblers, a dentist, a doctor, a college professor--experts in every line--are numbered among the 25 camps of the March Field District.

Region 6

The following summary of work completed up to August 1 for the 85 Federal CCC camps in Oregon and Washington shows that the youths have made important headway in a program of construction and maintenance which constitutes an invaluable asset to the forests of the Pacific Northwest.

Total new truck trails or mountain roads constructed, 343 miles; existing truck trails improved or conditioned, 3,617 miles; horse or foot trails built, 87 miles, improved or conditioned, 3,409 miles; woods telephone line built, 435 miles, maintained, 1,742 miles. More than half of the projected lookout houses and other forest buildings have been completed. A number of free public campgrounds have been improved or developed with stoves and sanitation accommodations. Over 6,500 feet of pipe line has been laid to furnish water to campgrounds and for other purposes; 12 bridges have been constructed; 41 culverts installed; 2,059 telephone poles and 4,987 fence posts cut.

In addition, it was necessary to spend 10,030 man-days in fire-fighting, which meant that the men had to abandon much constructive work which could otherwise have been accomplished during this period.

In addition to actual fire fighting, 4,500 feet of fire line were built, and 13,126 man-days spent in blasting and cutting down old snags and removing other fire hazards.

Many urgently needed range improvements have been made. These include rodent control work for the protection of grazing resources on 6,400 acres; development of 13 springs; construction of 55 dams to prevent soil erosion; 6 miles of stock driveways, and 15 cattle guards. A grazing range survey was made of 25 sections and more than 4,000 man-days spent in clearing and constructing miscellaneous improvements.

Region 9

Contrary to the general opinion as frequently expressed around street corners and grocery stores, the boys in the CCC camps are sticking to the job and not "eloping". Out of the total enrollment, it is reported that an average of only 1/4 of 1 percent have hit the road. Considering the immaturity of many of the boys, the new conditions surrounding them, and their absence from friends and relatives, this is a very favorable rate for three months' time.

BUSY BEAVER

While hiking down an old peat ditch dump one day in August last year, I came upon a lone beaver working in a small puddle in the ditch. The rest of the ditch and the surrounding territory was dry as tinder. The water in the puddle was about a foot deep and thick with green scum.

I sat down on some old timbers and watched the beaver work for a long time, feeling sorry for him but unable to help in any way. He would slide into the dirty water and bring up a great load of mud on the other side and return again for another load, evidently trying to dig the place deeper.

Recently I had an occasion to visit this place again, and to my surprise, I found a well constructed dam, about 1½ miles of ditch full of water and flooding the swamp for a considerable distance on each side of the ditch.

This ditch full of water recently helped a great deal in stopping a fire which would have been difficult to control had it not been for this lone beaver. - W. R. Schmechel in "The Smoke Screen", published by the Minnesota State Forestry Department.

YE EDITOR DISCOVERS

After months of delay, the Devnira allotment of $10,000,000 and the Impnira allotment of $15,982,745 have been released for expenditure. Regional Foresters have been wired the signal to "go". The authority necessary to prosecute both Devnira and Impnira work was secured when, on August 24, the Public Works administrator approved the regulations which had been submitted to him. The first general instructions and tentative allotments had already been sent the Regional Foresters on August 19.

The Secretary has waived the requirement in the case of both Devnira and Impnira that purchases be cleared through the Department's Division of Purchase and Sales when the amounts involved exceed the one thousand dollar or twenty five hundred dollar limits imposed by the fiscal regulations.

Several weeks ago recommendations were submitted to the Secretary regarding minimum wage scales for Devnira and Impnira work. The minimum of 30¢ per hour for unskilled labor and 40¢ per hour for skilled labor was proposed. These rates had to be disapproved because, unknown to the Forest Service, the special board for Public Works had adopted minimum wage rates considerably higher than those proposed by the Forest Service. In the action taken by the board, the United States is divided into a northern, a central, and a southern zone. National Forest States in the central zone include Virginia, Tennessee, Colorado, Utah, California, North Carolina, West Virginia, Kentucky, Missouri, Nevada, and the District of Columbia. States north of this zone are classified as northern and those south are classified as southern. The minimum hourly rates prescribed by the board are as follows:

	Northern Zone	Central Zone	Southern Zone
Skilled labor	$1.20	$1.10	$1.00
Unskilled labor	.50	.45	.40

Upon learning of this action by the board, the Washington Office considered whether an appeal should be made and authority requested to follow our time-honored principle of correlating our wage rates with those paid for comparable work in the regions and localities involved. Our decision was that it would probably be useless to make such an appeal and moreover, we were not sure that it was socially, economically or otherwise wise to make an effort to secure a modification of the board's ruling.

Thereupon, the Washington Office went into one of those well-known huddles, and, with the aid of midnight oil and many conferences, developed recommendations based on the minimum rates prescribed by the board. These were submitted to the Secretary on August 25 and although not approved on the date this is written (August 30), a favorable decision is expected at an early date.

Regional Foresters have been wired not to let the delay in action on wage and salary scales postpone recommendations for appointment of overhead and facilitating personnel in Devnira and Impnira work. The important thing is to get men selected and recommendations made in order that the necessary action in Washington may be speeded up, the work started on the ground, and the far-reaching program of the board inaugurated. In short season National Forest territory, speed in the initial stages is particularly important if construction and other activities are to be inaugurated this fall and some stimulus given to purchasing power, which is so vital to the administration's recovery program.

The wage and salary schedules now awaiting approval by the Secretary will require many adjustments by the Civil Service Commission. The examinations which are now being held by the Civil Service for Devnira and Impnira include announcements as to salary scales based on our previous ideas rather than on the minimum rates adopted by the board. The Civil Service Commission is, however, dominated by the idea of supplying the needed service in the most rapid and cooperative way possible, and it is expected that no insurmountable obstacles will be encountered in adjusting Civil Service announcements and former wage rates to the new program.

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There are about 500 known permanent sample plots in the forests of the United States, of which about 400 are under the direction of the forest experiment stations. The largest number of these plots are about one-fourth acre in size.

Switzerland has over 300 plots and Great Britain nearly 200. In Germany, there are something like 1600 permanent sample plots, Prussia having 900. In India, there are nearly 1500 such plots in 11 provinces, the United States Provinces having nearly 400. These foreign plots include only those under the direction of the State research agencies. Were the unofficial plots included, the number would probably be increased by 10 percent. Most of these foreign plots are about an acre in size.

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Arrangements have been made by Director Fechner to have Forms ECW-7, "Monthly Work Progress Report", tabulated and summarized by the Bureau of the Census. The cost of such work is about one-third the cost that would have resulted had the Forest Service undertaken the job by the renting of tabulating machines and the hiring of additional personnel.

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The Leningrad (USSR) Forest Experiment Station has studied the effect of "light burning" on germination of Scotch pine seed. In one experiment where the temperature reached 362° C., only 33 percent of the seed showed no external injury and only 12 percent of these uninjured seeds germinated. In another test, where the temperature reached 182° C., only 5 percent of the seeds were uninjured and of these only 0.1 percent germinated.

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R. K. Winters of the Southern Forest Experiment Station is in Washington for an extended period working on a growth phase of the Forest Survey. The Southern Station is endeavoring to work out a system for predicting growth that can be applied throughout the South, or for that matter the entire region covered by strip surveys.

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Dr. A. E. Morgan, head of the Tennessee Valley Authority, has requested that the Forest Survey be extended into the Tennessee Valley.

MORE "ECW" STRAIN

A note has been received from Asst. Supervisor Putsch of the Prescott stating: "Refer 4th article, Page 7, Service Bulletin, July 3, 1933. Aldo Leopold left the Prescott having forgotten to take along his erstwhile inseparable companion - his pipe." - Region 3.

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

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Theodore Roosevelt

Vol. XV11 No. 20 Washington, D. C. September 25. 1933

OUR PROFESSION TO THE FOREGROUND

(From an article by E. C. Pyle in the Service Letter of the
Pennsylvania Department of Forests and Waters)

With forests and foresters making headlines in the Nation's newspapers for the past ew months, it makes one wonder whether a depression was needed to instill in the minds of ur people an appreciation of forestry and its benefits.

President Roosevelt's accomplishment of putting 250,000 young men, eighteen to twenty-ive years of age, to work in the forests of the country seems to me to provide the chance of lifetime to place the real principles of forestry forever before the American people. housands within our State and millions within the Nation know nothing of forestry. ***

Granted that millions of people during good times travelled through the forests of the nited States or camped in them, I dare say that comparatively few really knew what the for-sts held or what was going on within them. They learned to look upon their splendor admir-ngly, but with very little true appreciation. The depression, on the other hand, has rought hundreds of thousands of people into the forests of Pennsylvania for greater periods f time, thus giving them a chance to study and appreciate the forest as a "friend of the eedy," not only as applied to those in need of food and shelter, but those in need of a hange, of a rest, and of moral and spiritual fortitude.

The issuance of free fuelwood permits to the needy and the use of relief labor for ublic benefit in our forests have helped materially in forest appreciation and forest ependence. ***

Just what is going to happen now that the President's plans have proved successful? orestry is now getting the publicity which it has long been looking for. It will be up o us to see that it continues thus, that it does not terminate with a "bang" and go up in moke. The time has come for the forester to spread his gospel to millions of people who eretofore knew nothing of his work.

From 250,000 forest workers in the United States letters to the folks at home will robably be read or heard by over one million people directly within the families of these en, or more than 75,000 in Pennsylvania. There will be letters written to sweethearts nd friends which will come near doubling these figures of persons receiving direct informa-ion on their work, namely, two million in U. S. and 150,000 in Pennsylvania.

Many of these letters will find their way into local newspapers, thus reaching thous-nds more people for each item. Pictures of camp life and forest work will be exemplified continually in newspapers, news reels, and private cameras. Thousands of friends of the men and curiosity seekers visit the camps and become acquainted with some phase of the work.

Foresters from all branches of our profession participate in lectures and educational entertainment to further forestry publicity in these camps. By this means the young men obtain a better and more true conception of what our profession is working for.

In other words, we should have some 20,000 more direct disciples of forestry in Pennsylvania and at least sixty-five percent of the population who will know something about forestry work. This, together with the good derived by these young men from wholesome labor, will be worth as much to humanity and forestry as the work actually accomplished in the forest.

HIGHLIGHTS OF BRITISH FORESTRY COMMISSION REPORT FOR 1932

By W. N. Sparhawk, Washington

Britain also has an economy program. Parliamentary grants for forestry decreased from £937,800 in 1930 (normally $4,560,000) to £447,000 in 1932. Income from the Commission's forests, which is also available for expenditure, decreased slightly. One result has been a curtailment of the planting program for the period 1932-1935 by some 40 to 50 thousand acres. This has made it necessary to destroy nursery stock which had already cost £50,000. Expenditure for research was not curtailed.

Seven training camps were established for unemployed laborers (CCC ?) to do road building, clear scrub growth, and do other forest work which would not normally have been done for several years. This was so organized as not to displace any local labor.

By the end of the year there had been established 1108 forest workers' holdings, averaging about 11 acres each, under the scheme whereby workers are settled permanently on the forests, furnished with house and outbuildings and a small area of farm land at a very low rental, and given around six months work each year in forestry operations. There were 4,628 persons residing on these holdings. The number of laborers employed on the 830,000 acres of forest varied between a minimum of 2,720 (summer) and a maximum of 3,985 (winter), or an average of 3,352. At the same rate the 160 million acres of National Forest in the U.S. would employ 650,000 laborers!

The total area of land under control of the Commission at the end of the year was approximately 830,000 acres, of which 121,000 was former Crown forest turned over to the Commission in 1919. During the 13 years beginning with 1919 some 445,000 acres has been purchased (average cost of 1932 purchases £2-4s per acre, normally $10.70) and 264,000 acres acquired under long-term lease (annual rental in 1932 was 10d, or approximately 20 cents an acre). Only 502,000 acres of the total is either forested or classed as plantable.

The Commission has planted approximately 212,000 acres since work started in 1919, and has subsidized the planting of 90,000 acres by private owners and municipal authorities. In 1932, some 22,500 acres was planted with 51,600,000 trees, at an average cost for labor and material of £9- 7s-3d per acre (normally $45.50!). This includes preparation of the ground, fencing, eradication of rabbits, etc., in addition to actual planting.

During the year, 315 forest fires (52 percent caused by railroads) burned 262 acres. If fires were as numerous in proportion to area in the U.S., we should have over 60,000 fires annually on the National Forests.

Total expenditures for forestry in 13 years have amounted to £6,925,000 (normally $33,700,000), of which 20 percent was for land acquisition and 38 percent for planting, not including overhead. Total receipts have been £1,339,000, practically the same as the amount spent in acquiring the forests.

Cambridge University has announced the discontinuance of its professional forestry school, but will continue to offer courses in farm and estate forestry.

CASH INCOME TO NORTHERN NEW MEXICO FARMERS FROM FOREST PRODUCTS

By Quincy R. Craft, R. 3

The cash income of many New Mexico farmers of the mountain regions is relatively small. They produce a large proportion of their subsistence, and haul enough fuelwood to the towns to secure clothing, sugar, coffee, and other imports; and one of the best rural schoolhouses in the State was built two years ago entirely through the cooperative effort of the patrons, much as in the years of yore. In an area thirty by one hundred and fifty miles in extent between Springer and Glorieta in San Miguel and Mora Counties forest products rank not fourth, as in the case of the Southern farmers cited by Mr. Mattoon, but they furnish practically the sole source of cash income of over 5,000 men, who market through the timber department of Gross Kelly & Company. It is to be hoped that future market will justify the course of this firm, which has continued to receive the ties, posts, mine timbers, and lumber from these operators, even though with scant operation of the mines and low demand of the railroads and the public it has accumulated a tremendous stock.

An interesting feature of these cuttings, largely on Spanish grants, begun more than a half century ago, is that the woodsmen do not move to new fields, but each group secures its supply year after year from practically the same locality - a crude system of selective cutting. The areas are not burned over. Better lumber manufacture would benefit the industry, the operators of the small sawmills themselves, and the Gross Kelly & Company (which is obliged to remanufacture with some waste much of the material); but in the selection of trees for cutting, and the protection of young growth, perhaps a matter of habit as much as plan and forethought, it has been possible for thousands of families to avoid distress and actual suffering in the unusual times of the last three years.

A NEW NON-STOP RECORD

By George Jemison, Northern Rocky Mt. For. Expt. Sta.

Not to be outclassed in this day of around-the-world flights and stratosphere balloon ascensions the relative humidity at Looking Glass Lookout near the Priest River Experiment Station in Region I recently hung up a new non-stop record when it stayed below 33 percent for 8 days and 17 hours, August 9 to 18. For 209 consecutive hours the humidity averaged only 22.6 percent as shown by the continuous record of a hygrograph. The lowest point on this extended flight was 12 percent while the lowest points for the 9 days averaged 17.2 percent.

At the same time the air temperature was doing gymnastics and also established what is believed to be a record for 5700' elevations in this locality. The maximum temperature for this period averaged 84.8° with a high of 88°. Not once did the temperature drop lower than 60°.

Of course with such extreme weather conditions the fuels were bone-dry. Duff moisture content at 4:30 p.m. under partial shade at the lookout averaged 5.3 percent and $\frac{1}{2}$" wood cylinders had a mean moisture content of 2.1 percent.

To show that there is such a thing as luck and to make a happy ending to this tale--:

Conditions were ideal for lightning storms on August 19 and 20 but the thunderheads that covered the sky dropped a trace of rain and silently passed over the hill.

TOURIST REPORTS RESCUE OF CHILD BY FOREST OFFICER

Los Angeles
August 2, 1933

Superintendent,
U. S. Forest Service,
Washington, D. C.

Dear Sir:

I would like to report the heroic rescue of a child by one of the Forest Service men which I witnessed recently while touring through this part of the State.

Doubtless the child's mother has written you ere this but I would like to add my version.

On July seventh our party was picnicking near the mouth of Barrett Canyon. We noticed two children of about nine and twelve climbing around on a cliff. Suddenly the smaller one started sliding down. We were horror-stricken. Just then a C. C. C. truck came along with a man and a boy driver. The man jumped out of the truck, slid down a twenty foot bank and arrived at the foot of the cliff in time to catch the child. His quick thinking and action surely saved her from death or serious injury.

The child's mother was hysterical. She asked the man his name but he did not tell her and went on up the canyon. About an hour later the boy driver came back and she tried again to find out the man's name. The boy would not tell but said he was Superintendent of Camp San Antonio.

That was a thrilling thing to see. The child fell about twenty-five feet and hit the man with terrific force. She was unhurt but her rescuer must have been bruised.

This letter is to express my sincere appreciation that such men are in the Forest Service and in charge of the young C. C. C. Boys.

Very sincerely yours,
(Signed) Izette Downs Matteson

THE TWENTY-SECOND TIMPANOGOS ANNUAL HIKE

By A. G. Nord, Wasatch

10,500 visitors! This was the announcement from the traffic officer in charge of the attendance for the opening exercises of the evening program for the famous Timpanogos hike on July 22. This hike, sponsored by the athletic department of the Brigham Young University, was the twenty-second annual affair of its kind.

The setting in Aspen Grove, at the base of Timpanogos Mountain in the Wasatch Forest, is abounding in natural beauty. Mt. Timpanogos, the majestic peak of the Wasatch range, towers to an elevation of 12,008 feet and is the destination to which the hikers are attracted.

The open air theatre where the program is held is made of logs placed in terraced fashion on the mountain side under a canopy of thrifty Douglas fir trees. The facilities included the megaphone, dynamic speakers, powerful lights, stage and orchestra equipment:

while the program consisted of everything from tap dancing, one act plays, tableaux, and musical numbers to recreation and nature talks.

Preparation for the hike is made immediately following the program. Some of the hikers prefer to reach the summit to see the sun rise. Others hurry with the hope of receiving the reward to the first reaching the summit, while still others delay the hike until daylight to study the massive formations of the palaeozoic era and to view the beautiful Alpine scenery along the way. The report at the end of the hike shows that 1500 have made the ascent of nearly 5000 feet and have concluded what is claimed to be the most unique recreational outing in the West!

YE EDITOR DISCOVERS

The August 25 wage scale recommendations of the Forest Service reported in the last issue of the Bulletin were approved by the Secretary on September 8 after two weeks of distressing delay and negotiation. Appointment recommendations are now flowing through at the rate of one hundred, or more, a day. Including unskilled laborers, who are not given Civil Service appointments, a special report, made necessary by the request of the Public Works Board, shows that on Monday, September 11, over 2300 people had been given work from Devnira and Impnira funds. Considering that our wage scale recommendations had been approved only three days before, this is a showing for which the Forest Service need not apologize. If the number increases with appropriate rapidity to the level necessary to accomplish Devnira and Impnira work within the time limit set, the Forest Service will be able to support fully its reputation for ability to get prompt action on big emergency jobs.

The policies and wage scales promulgated by the Public Works Board are hard for some Bureaus to accept and apply. A logical pay scale structure based on the instructions of the Board results in rates which are higher than those paid Civil Service employees, who have borne the heat and burden of the day and must in many instances direct and be responsible for the work of temporary Nira employees drawing more money. A cleavage in pay rates must come somewhere. Some of the other Federal Bureaus are inclined to minimize the disparity between the old and the new rates by holding the new rates down wherever possible. This can be done by various devices, especially where a Bureau employs almost entirely common labor. The Forest Service, however, requires a large proportion of men who cannot be classified as anything but skilled labor and its whole pay rate structure must therefore be built around the Board's skilled labor rates as well as around its unskilled labor rates.

It is hoped that permanent Forest Service employees will not be too much distressed when rates higher than they receive are paid to Nira employees working under their direction. From a strictly selfish standpoint a permanent Forest Service employee should welcome the payment of higher rates to employees hired for the duration of Nira work. Such an occurrence would be a dramatization of the fact that the permanent employee is a poorly paid as well as a much overworked servant of the public. This may help to dissipate some of the poison that has been spread about Government employees and their work and pay during recent years.

One important feature of the whole Nira wage scale policy of the Board must not be overlooked. The Federal authorities are making a heroic effort for National Recovery to be something more than words on paper. This is a huge undertaking which deserves the utmost support of every Federal employee. The pay scales promulgated by the Board and the principle of part-time employment are essential parts of the recovery fabric which the administration is attempting to weave. Large numbers of people employed part time from Public Works appropriations but paid at rates which mean a real stimulus to national purchasing power may and should mean a material contribution to national recovery and a material reduction of the misery and human degradation which have been so prevalent.

Proposals to correlate ECW overhead and facilitating pay scales with the Nira pay scales approved by the Forest Service have been approved by high officials. If they receive the final approval of the President, one disparity between pay rates of different groups of employees on the National Forests will be removed.

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According to the August progress report of pathological activities under the ECW program, a manual on forest diseases with relation to stand improvement work in the East has been submitted to the Government Printing Office and will be issued as ECW Publication No. 2. Description of the more important diseases whose prevalence can be affected in cultural operations and general recommendations for their control are given. The very uneven distribution of these diseases, abundant in some areas and absent or negligible in others, as well as the local differences with regard to butt-rot hazard, makes it essential to supplement the manual by local service and field demonstrations to the cultural foremen. This local service is being furnished by pathology technicians, some of whom are members of the Division of Forest Pathology and others who have been appointed from Emergency Conservation funds. During August a total of 31 State camps and 23 Federal camps in the Eastern and Southern States were given this service. In the Allegheny section lectures on forest diseases were given to the enrolled men at some of the camps, and demonstration specimens of some of the principal diseases were supplied. Lantern slides of diseases have been furnished the Illinois ECW organization on its request. Additional service of more or less similar type has been given to Federal camps in Regions 3, 5, and 9 and State camps in Minnesota, West Virginia, and Iowa.

Work on beech bark disease and on pine canker is being continued on a small scale. The concentration of effort has been on the Dutch Elm disease. Removal of infected trees continues to be somewhat difficult to handle because of the size of many of the trees and the fact that they are often in built-up sections. Despite an increased number of scouts at work, the daily number of new cases of the disease found is now diminished and it is hoped that the major part of the infection has been already located. It was found that there have been sporadic importations of curly elm logs for furniture veneer. This development which only began within the last few years, is beyond a reasonable doubt the route through which the disease reached this country. The discovery of the route by which the disease and its associated bark beetle have entered the country from Europe should help to prevent further entry and add to the chance for success of the eradication program.

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President Roosevelt has proclaimed the week beginning October 8, 1933, as Fire Prevention Week. "To prevent our enormous waste by fire," the President's proclamation states, "the cooperation of all citizens is requested, and the organizations, groups, and individuals interested in fire prevention are asked to take the leadership in instructing the public in the simple precautionary measures advocated as fire-prevention safeguards."

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As a part of the educational program for the boys in the CCC camps, 100 motion picture projectors and generators to run them are being contracted for by the Forest Service. The total expenditure for this project will be between $40,000 and $45,000.

Instructional motion picture films are to be shown which will give the boys in the camps better background for their work, and add to their ability to further the President's conservation program. Forest Service films will be used, together with some additional educational films that are to be purchased.

Boys in the camps will be selected and taught to operate the machines. Many of them will consequently have the opportunity to learn a new trade that may be useful to them later.

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The Washington Office received an announcement of a "flag raising ceremony and official opening of an ECW camp to be held on September 14, 1933." One of the wits of the office endorsed on the announcement the following: "Judging by the date, this camp sure must have been hard to open."

THE FOREST WORKER HAS BEEN DISCONTINUED

To the friends of this little bimonthly publication this news comes with genuine regret. Originally conceived as a substitute publication for the Bulletin for distribution outside the Service, the Forest Worker has been of real value to the profession by not only keeping it informed about happenings within the Service but by serving as a clearing house of information about current forestry everywhere. Like some other cherished institutions it has fallen victim to the economy wave - not permanently we hope, but just laid away in rose leaves and lavender pending the return of prosperity; and so in place of the usual number this month there will go out instead notices to its readers that publication of the Worker has been suspended because of lack of funds to edit it. - George A. Duthie.

AN OLD TIMER RETIRES

By V. V. Harpham, Umpqua

O. C. Houser, Senior Forest Ranger and Fire Dispatcher, or fire assistant, for the past several years on the Umpqua, retired on June 1, account of total disability.

Mr. Houser has been employed on the Umpqua for the period since 1908 —— just about an even 24 years, and without a break in service. He was District Ranger for many years before taking over the Central dispatcher's work. Oscar, as he was affectionately known among his co-workers, has also handled the office end of the grazing work for several years.

Mr. Houser served under Supervisors Bartrum, Ramsdell, Rankin, Neal, and Harpham. He was one of the pioneers of the North Umpqua and roamed the Umpqua territory when the trails were truly dim. He gave the best there was in him, always, regardless of whether the task was distasteful or otherwise, and did not complain; and the writer knows that some of the experiences of Mr. Houser in the days of 1908-09 in particular would make fascinating reading if they could be put into story form. Those were the days when Oscar endeavored to protect and administer single-handed as much territory as a dozen men are now assigned to, and 45 percent trail grades were ruling grades in those days. If pack stock could not walk down some of them they slid or rolled down. This is no exaggeration either, for the author has assisted in picking up some of them that rolled.

We could ramble on indefinitely if space permitted, but since it doesn't in these strenuous ECW days, we'll just say "Farewell, Old Pal and Friend, and may your retirement days be happy ones even though you can't 'hit the ball' like you once could. May Uncle Sam never forget your faithfulness nor fail to reward you in a just monetary way by any super-economy program."

Mr. Houser lives on his 5 acre fruit and berry ranch 3 miles west of Roseburg where strawberries grow to the size of turkey eggs and his address is just Roseburg, Oregon.

FOREST FIRE MENACE

Rabbits are a serious menace during forest fires; they run, with fur ablaze, from the burning area and set new fires. - Clipped.

"PRAYER OF THE FORESTS"

A good friend of the forest and a staunch supporter of the Forest Service is Mr. Jesse C. Glassford, a prominent business man of Grand Junction, Colorado. A writer of no mean ability, Mr. Glassford has used his literary talent in the support of his friends. He contributed a sketch for an excellent episode for "Uncle Sam's Forest Rangers" which was broadcast on July 21. In commemoration of that event he sent a nicely framed copy of the following "Prayer of the Forests", which now hangs in the Branch of Public Relations in the Washington Office. In his radio sketch, Mr. Glassford included a poem entitled "Where Man is King". This was read at the end of the episode by the announcer. So many requests have come in from radio fans for copies of the poem that it was necessary to reproduce a number of copies for distribution.

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Save
us, Ameri-
ica. Save for
posterity. We are
the Forests, friends
of prosperity. Forest-
ed dells,lands of mystic
dreams. Nature's storage,
source of streams. We ever
delve, forever toil,protect the
streams,prevent erosion of the soil.
Vanishing now,we plead in distress,Save
us, we pray, or find a wilderness. Save us,
America. We the verdant hills, robbed of our
trees we lose the cooling rills. Nature's wild
spots must not plead in vain. Must not die to fos-
ter selfish gain. Beautiful America, each flowering
slope, joins with its prayers, hoping against hope.Our
forested crests, fragrant, sweet, chaste, deforested, be-
come a barren waste. Save us, American, Let not man despoil
leaving for his children sterile, parched soil. We rivers, born
of forests,life blood of seas, die - all Nature dies, when man des-
troys the trees. Forever flowing, to moist banks we cling, and as liv-
ing waters give rich offering. Without a source,we rivers die; leave
barren wastes where waters cool should lie. Save us, America, pleads this
trinity - forests, waters, earth - save each helpless tree. Exert thy power,
save us while you can. Preserve your woodlands from the ruthless hand of man.
Majestic
loveliness
tall mon-
uments of
His power,
give trees
their her-
itage. not
their dy-
ing hour.
Who made Forests, 'tis His power to give.
America, Help us. Let our Forests live.

THE SERVICE ON THE JOB

By R. Y. Stuart

Having seen some of the CCC camps in the East, I wanted also to inspect some of those in the West, particularly those directly supervised by Forest Service men. While I had every confidence in our men obtaining results under the project, my expectations were surpassed in what I saw. One can not pass sound judgment upon the accomplishments without recognizing the varied circumstances and conditions under which the project has been established and is being conducted. It has been in every way a unique experiment. We of the Service were convinced, as we are now, that the forests offer an exceptional opportunity to meet unemployment problems and, as well, to do work highly necessary in the public interest for the development of those properties. That the project has demonstrated this not only is clear to us, but is reflected in the President's plan to continue it for another six months.

An impressive thing to me was the resourceful and untiring work of our men from the very initiation of the project. This can be said not only as to camps on the National Forests but on State and private forest lands as well. The Forest officers did many things and in such a way as could not have been ordinarily expected of them. They did them willingly, cooperatively, and effectively with the other agencies concerned. The results are manifold. They are reflected in the camps, in the morale and physical condition of the men, and in the work accomplished. One of the outstanding features of the Forest Service supervision has been the extent to which the enrollees under training from Forest officers have become more and more efficient in the conduct of work quite foreign to anything they had previously attempted, - this, despite the wide and diversified character of the work to be done. Thus, the enrollees have proved to be efficient snag fellers as well as artful builders of map models. Here is another illustration of the value of our policy and practice in job training.

Forest officers have every reason to be proud of the work they have accomplished in the CCC, and I want to express deep satisfaction and gratification to all who have played a part in it. With this background we are assured of the success of the winter camp projects.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

OCT

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol.XVll No. 21 Washington, D. C. October 9, 1933

THE TALLAMOOK FIRE

By Richard E. McArdle, Pacific Northwest For. Expt. Sta.

During the last half of August 1933, a fire occurred in northwestern Oregon which unquestionably will rank as one of the major forest conflagrations of all time in the United States. Unlike some other disastrous forest fires, the loss in life fortunately was small, but the damage to mature timber was incredibly large. This one fire wiped out one of the few remaining large blocks of virgin Douglas fir forest in private ownership in Oregon. The net burned area will be close to 267,000 acres (over two thirds of this is virgin timber), the fire-killed timber will run to nearly 12 billion board feet, and the loss to industry and the public through timber values, labor, etc., probably will exceed 350 million dollars less whatever may be salvaged from this area.

This fire started shortly after noon on August 14, 1933 in the fresh slash of a logging operation, presumably originating from the friction of a steel cable passing around a stump or by dragging one log across another. The fire was discovered almost immediately and was attacked by the logging crew before it had burned more than a few square feet. But it could not be extinguished. The day was dry and windy; spot fires started elsewhere on the area, and supplementary fire crews rushed to the area were unable to control the fire. By nightfall the fire had burned over some fifty or sixty acres of fresh slash and had spread over about 350 acres in a previously logged and burned area. By 4 a.m. on the next day the fire had burned south to uncut timber and westward into about 75 acres of year-old unburned slash. At this time, other fires, presumably spot fires from the main fire, were burning in various places 2 to 5 miles south of the main fire.

The second day (August 15) also was dry and windy. Nearly 600 fire fighters, including a detachment of 150 CCC men, were unable to hold the fire on any front except the northeastern corner (the side toward the wind.) It is impossible to picture adequately the difficulties of fire fighting in this particular area. There are almost no roads or trails, the terrain is exceedingly rugged—a continuous series of deep canyons—and in most places the undergrowth is almost impassable. On this second day the fire crowned in old growth Douglas fir timber and covered about 4 sections adjacent to the spot where the fire started; and the group of spot fires to the south merged and crowned over about 5 sections of timber. There were now two large fires separated by about a mile of green timber.

On the next five days the fire spread comparatively little. The wind on some of these days was fairly strong, but the relative humidity was high throughout this period and the area was shrouded in mist and fogs. During these five days nearly all of the fire was trenched by a crew of almost 900 men, including 450 CCC. Things looked pretty bright and encouraging.

Then came another break in the weather and strong east winds accompanied by low relative humidity swept one fire 8 miles and the other fire about 5 miles in a southwesterly direction along opposite sides of a high ridge. The two fires were now one, roughly the shape of a huge horseshoe with the open end of the "shoe" at the southwest. With the impetus of continued strong winds and low relative humidity the fire spread several miles to the southwest in the next 3 days.

This was already a serious fire, having burned over some 35,000 acres, mostly in virgin timber. But the worst was still to come. Shortly before midnight on August 24 a strong east wind developed which continued all of the following day and until the morning of the 26th. With the wind came the low relative humidities which in this region invariably accompany winds from the east. Measurements at various places near the fire showed the wind frequently to be in excess of 30 miles per hour and almost steadily over 20 miles per hour. The fire picked up everywhere and ran about 15 miles to the northwest, chiefly through an old burn, and over 12 miles to the west and south through virgin timber, covering in this one period of 30 hours over 200,000 acres.

Parenthetically, it should be mentioned that another fire in logging slash started in the evening of August 24 about 10 miles north of the starting point of the Tillamook fire. This new fire also "blew up" on August 25 and traveled some 15 - 20 miles to the northwest.

Enormous clouds of smoke rose to an estimated height of 40,000 feet and billowed westward over the Pacific Ocean, darkening the towns along the coast and carrying tons of needles and twigs far out into the ocean; these needles later were washed up on the shore in tremendous windrows.

The fire has not spread much since August 26 but its boundaries at this writing are imperfectly known. As nearly as can be determined, there are about 287,000 acres within the outer edges of the fire. Thus far about 20,000 acres of timber within this zone is unburned and this may later be increased. Unless there is another "blow up", the final net size of this fire will probably be about 267,000 acres.

Figures compiled by the forest survey show that there was more than 12 billion board feet of merchantable timber in one solid block within the boundaries of the fire. Of this, at least 11 billion was killed by the fire. This is as much as the timber cut of the entire United States in 1932. It is 8 or 9 times more than was cut in the whole Douglas fir region last year, and about the same as was cut in this region during the "boom" years of 1926-1929. It is over twice the volume killed by all fires on private land in Oregon during the preceding 20 years.

The stumpage value of this timber was about $20,000,000, but this is probably the smallest part of the damage. Under ordinary conditions the logging of this block of timber would have extended over a 25-year period; but now, if anything is to be salvaged at all, the logging must be largely accomplished within 4 or 5 years. Had there not been a fire, at least $5,000,000 a year would have found its way into the pockets of labor (and right out again!) for about a quarter of a century. The expenditures for labor will not increase proportionately for a shorter period because only the best of the burned timber will be taken. The common carrier railroads will lose anywhere from 50 to 100 million dollars in freights. Repairs and replacements for mill machinery will be less than would normally be required. It is difficult to predict how far the influence of this catastrophe will be felt, especially if so great a volume of timber is "dumped" on the market at a very low price. But there is no question whatever about the local effect of the fire. To mention only one local feature, Tillamock County will be hard put to find funds for local government, schools, and the like. Timber contributes about two thirds of the taxes levied in this county; the fire destroyed a very large part of the timber of the county.

Members of the Experiment Station made detailed studies of this fire while it was in progress and are preparing a complete report covering the spread of the fire in relation to weather factors, fuel conditions, topography, and the like.

TREES OR ALFALFA?

By E. N. Munns, Washington

The question is often asked as to the effect of trees upon soil moisture, particularly the moisture of deeper soils. No reliable data are available, but some recent reports from Kansas show the extent to which alfalfa may exhaust the soil of its moisture. This exhaustion may explain in some measure why trees sometimes do not immediately recover from drouth, and why fires are severe after a drouth period has passed.

The Kansas investigations show that alfalfa dried out the deep subsoil (25 feet) so thoroughly that little or no moisture is available for a following crop. When the alfalfa is broken and the land used for wheat or corn, the subsoil below 10 feet does not readily regain its original moisture content. The deep subsoil in a rotation that has been out of alfalfa for 12 years is practically as dry as that recently broken out of alfalfa. Two full years of fallow (under an annual rainfall of 18 inches) were not sufficient to replenish the original moisture to a depth of 20 feet on old alfalfa land. One season of fallow accumulated some moisture to about 9 feet, but this was removed the next season when the land was seeded to alfalfa.

CALIFORNIA - WHERE ARE YOU?

By M. H. Wolff, R. 1

A deed covering approximately 25,000 acres of highly productive, mainly young growth, white pine land in the relatively accessible localities in the St. Maries and St. Joe River country in Idaho, has just been received from the Milwaukee Land Company. This brings the total acreage of donations in the St. Joe-Clearwater territory within the last nine months close to 170,000 acres.

Included in these donations is one of some 3,000 acres within the Coeur d'Alene National Forest, from Shoshone County, Idaho, whose commissioners insisted that they preferred to donate these lands rather than turn them over in exchange as authorized under the Idaho laws.

Region 5 news organs please copy!

WHAT SOME OF THE CCC BOYS ARE DOING

Region 2

Reports received from the superintendents of the 10 CCC camps in the National Forests on the eastern slope of Wyoming, covering the cumulative period ending August 31, show a gratifying increase of accomplishments over the preceding month. A total of 1,377 men were engaged in effective field work. Among the projects which register the greatest increase are: telephone lines constructed, 11 miles; roadside clearing, 85 miles; thinning of dense stands of young timber, 1,023 acres; roads constructed, 21 miles; buildings constructed, 11; fences constructed, 9.5 miles; campground clearing, 242 acres; latrines for public campgrounds, 16; waste disposal on 5 public campgrounds; fence posts cut and treated, 6,183; fire fighting, 330-man-days; domestic water developments, 13; land and timber surveys, 88 miles; bridges constructed, 20; erosion control, 450 acres, and 46 dams constructed; stock driveways constructed, 3; rodent control, 185,005 acres; trails constructed, 473 miles; forest nursery work, 82 man-days; and eradication of posion plants, and plant and tree disease control, 520 acres. In addition to this completed work, almost an equal quantity has been partly completed. Also, innumerable small jobs, not named, have been completed, as well as a large amount of maintenance work on existing improvements.

Considering the difficulties that had to be surmounted at the beginning, and the inexperience of these men in such work, they have given a remarkably good account of themselves, and their efficiency is gradually increasing.

Region 3

The August monthly report of the 16 CCC camps in New Mexico shows that the volume of work is increasing each month as the men become better trained and hardened. For example, a total of 45 miles of telephone line have been completed since the camps were established in June. Of this, 30 miles were completed in August. Ninety two miles of truck trails have been built, of which 33 miles were completed during the past month. Forest stand improvement work covering over 10,000 acres has been completed in all, of which over 3,000 acres were covered in August.

These few instances will serve to illustrate the progress that is being made along the various lines of activity. In fact, the report shows that the total volume of work being accomplished is impressive; 13,200 acres have been covered in erosion control work which involved the construction of over 5,700 check dams. These check dams vary in size from 3 cubic yards of material to well over 15 cubic yards. Two hundred forty acres of tree-diseased areas have been treated; 31 miles of boundary fences and 48 miles of range division fences have been constructed, making a total of 79 miles in all; over 52,000 acres have been covered in prairie dog and porcupine control; 292 recreation campground improvements have been constructed; and two miles of fish stream improvement work have been completed.

Region 5

Returning from the Big Bar vs Mad River baseball game on Sunday, August 6, CCC members from Big Bar Camp in the Trinity Forest encountered a serious accident on the Lord Ellis grade about 12 miles out of Eureka. Due to faulty brakes a machine with five grown-ups and two children, residents of Hoopa, went off the grade at a turn in the road to drop some 100 feet into the ravine. The boys from Big Bar formed a human chain down to the wreck and managed to bring the injured to the road, where they were placed in the CCC truck and taken to the Eureka General Hospital for treatment. Hospital reports stated one woman dead and three in very critical condition.

As a result of putting in 21,907 "he-man" days fighting fire in August, the 25,000 CCC boys in the California National Forests reduced the acreage burned from 111.037 to 64,507 acres, and the cost of fire fighting from $280,025 to $38,614, compared with the five year average for the seasonal Forest Service record to date. This reduction of over 85 percent in costs of fire fighting and of 42 percent in acreage burned was incidental to the construction and maintenance thus far of 621 miles of forest roads, 1,010 miles of 9-foot truck trails, 1,054 miles of telephone lines, and 374 miles of firebreaks in the National Forests. In addition, the enrollees have covered 185,169 acres in rodent control, 41,972 acres in insect control, built 2 airports, 198 buildings, 4 erosion control dams, 46 bridges, 77 miles of dirt fences, and reduced fire hazards on 700 miles of roads and trails and 14,071 acres, besides doing other odd jobs such as developing 117 water sources, laying nearly 5 miles of pipe line and eradicating over a million plants which carry the white pine blister rust disease.

Money put into circulation monthly as a result of the 167 CCC camps in California is estimated to be $400,000 for food supplies, $220,000 returned by California boys to dependent families, $150,000 spent by 37,000 members. The cost of tools and equipment to date is approximately $1,000,000.

While Ranger Ben Beard and his crew from Crocker Camp, Plumas Forest, were fighting fire, one of the colored members was forced back into the brush and came face to face with a bear. The bear blinked, and hitailed; the colored boy rolled the whites of his eyes heavenward and lit out backwards. Bear and boy met on the other side of the brush. Shortly after Ranger Beard heard a plaintive voice demanding, "Boss, ah wants to go home. Dese woods am plumb full of bears." The ranger explained that bears are very much afraid of fire and the safest place from them was patrolling the line close to the fire. "But, Mr. Ranger," came the plaintive voice, "If bears am afraid of fire, den why put dat fire out? I asts you--why put it out?"

Region 6

A summary of the work accomplished up to September 1, by the 12,600 CCC boys working in 63 camps in Oregon's forests shows a marked production increase over the previous work report, due to the fact that the boys had become accustomed to the use of tools, necessary equipment for road building and other work had been installed, and the camp buildings completed, releasing the men to labor on other projects.

The report shows a total of 736 miles of new truck trails or mountain roads constructed - an average of 11 2/3 miles per camp - and in addition, 3,148 miles improved or conditioned. The boys built 187 miles of horse or foot trails and improved or conditioned 2,766 miles of trail; constructed 455 miles of woods telephone lines - or an average of more than 7 miles per camp, while 1,440 miles were maintained. They constructed 291 permanent forest buildings, including lookout houses, ranger stations, barns, etc. A large number of permanent campgrounds were cleared and improved with fireplaces, stoves, and sanitary accomodations; 55 road signs and 528 section corner signs were posted. They cut 2,000 fence posts; cut, peeled and hauled 500 telephone poles; built 33 miles of fences, 109 bridges and culverts; and marked 204 miles of forest boundary.

Routine work was frequently interrupted by calls to fight forest fires, and 32,056 man-days were spent in this manner. Exceptional work was done on the disastrous Tillamook and Clatsop County fires, where one boy lost his life and others were injured on line of duty.

In an effort to "fireproof" Oregon's forests, 40 miles of firebreaks were built; 3,990 acres of old snags felled, and 190 miles of fire hazards were cleared from along roads and trails; 2,560 acres were covered by beetle control and survey work and 26,859 acres of timber were cruised.

To improve and protect the grazing resources of Oregon, rodent control work was carried on upon 57,905 acres; 41 springs were developed; 313 dams constructed to prevent soil erosion; 11 miles of stock driveway, 68 cattle guards, 12 cattle corrals, and 92 miles of range fence built.

A substantial sum has been spent among Oregon merchants for food supplies for the camps, the 12,600 boys themselves having spent approximately $126,000 in the State, while some $630,000 has been sent to their families.

YE EDITOR DISCOVERS

Powerful forces are battling in Washington. That's not news. but it's comforting. Anything is better than to continue to take the sordid horror of the depression lying down. ECW, the National Plan for Forestry, Hynira, Acquisition, Devnira and Impnira loom large on the horizon of the Forest Service and make hectic the days and nights of Forest Officers, who sometimes wonder how they used to spend their time before all these gigantic new jobs were piled on top of their load of regular work. But in the larger view, these big new Forest Service jobs are only one little bubble in the vast cauldron of conscious social and economic experimentation which has replaced faith in the doctrine of letting nature take its course. There are many other and larger new organizations, institutions, and movements, some with mystic names like our own Devnira and Impnira, and some with no names at all. There are so many of them that no one can count them all or keep track of their swirling activities. But notwithstanding their swirling and seemingly chaotic activity they all have meaning and purpose. They are all parts of a vast effort to do what has never before been tried consciously in this country - make life for the common man a little less stupid and cruel. From the Forester down to the last man in our work camps, we are each and all playing a part in this vast effort. When the outcome is written in the histories of the U. S. A. and of that funny animal called man, what is written will be in some slight degree influenced by the way we play our parts as individuals and as a group.

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No one can pretend to be happy over the rapid fire of requests for reports to the Public Works Administration, but sometimes there is a compensatory satisfaction to be gained from them. The report requested by the Board as of September 11 showed a total of 2,342 men employed on Impnira and Devnira work as of that date - three days after we finally got our Impnira and Devnira wage scale approved. The next report requested by the Board showed a total of 5,499 men employed on September 18 - an increase of 3,157 men in one week. Incidentally, we understand that our number was about 10 percent of the total employed from Public Works funds on September 18. We have about 2 percent of the total amount allotted but on that date we had 10 percent of the number of men employed. This may be interpreted to mean that the Forest Service is five times as fast as the other crews engaged in Public Work enterprises. Did someone say "More than that"?

The report as of September 18 showed that work had been initiated on projects which will ultimately cost a total of $4,639,000. No contracts have been reported as awarded for Devnira or Impnira construction.

Employments by individual Regions are as follows:

Region	September 11	September 18
1	975	1,287
2	12	470
3	114	466
4	611	1,350
5	150	200
6	326	660
7	76	365
8	-	-
9	78	650
Research	-	50
W. O	-	1
	2,342	5,499

Old Man Depression will surely know that something more has hit him when he feels the impact of the purchasing power resulting from this rising volume of Devnira and Impnira work. To be sure, it is late in starting. The Public Works Board and the Administration are now being pounded mercilessly by the papers and State officials for the delay in getting the $3,300,000 public works program under way. We are not responsible for the delay. But since September 8 we have had all our brakes taken off and from that date on, the promptness with which Devnira and Impnira work contributes to mass purchasing power and National recovery is strictly our responsibility.

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Not in the memory of the oldest inhabitant of the Atlantic Building has the Forest Service received the extraordinary cooperation that is being received during these feverish months from the Civil Service Commission. Doubts arise, are discussed, and a joint decision reached. One day the Forest Service tells its latest complication to someone in the Commission's office who "knows his stuff." A suggestion is made, considered, and then, bing! bang!, a conclusion is reached and we are off again. The next day the process is reversed, with someone from the Commission presenting for consideration a snag into which the Commission has run. When two Government outfits so mutually dependent upon each other as are the Civil Service Commission and the Department of Agriculture, work together in such a cooperative spirit and with so much mutual respect, the effect on personnel management and the public service is bound to be worth watching.

All friends of Civil Service principles and the Government employee have reason to mourn the recent passing of Commissioner Wales. Through many long years of ups and downs which would have wrecked a less hardy spirit he pursued his patient and scholarly way winning respect and affection from Presidents, Federal executives, and employees. The Forest Service may well pause and give a parting salute to the memory of an able and devoted public servant.

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In the interests of developing a national program of erosion control primarily on agricultural land under Nira, Secretary of the Interior Ickes as Public Works administrator has set up a soil erosion control office in his organization. Mr. H. H. Bennett, who has been in charge of the soil erosion investigations of the Bureau of Chemistry and Soils, has been made Chief of this new unit and W. C. Lowdermilk of the California Forest Experiment Station has been made Assistant Chief. Bennett and Lowdermilk are making plans now for early initiation of this new enterprise with the idea of getting as much work as possible under way this winter.

It is expected that most of the work will be centered on the agricultural lands of the eastern United States, although this point has not yet been definitely settled. It is possible that the soil erosion station which the Indian Service has been attempting to develop on the Navajo Reservation will come under this new unit. The Forest Service undoubtedly will be drawn into various phases of this activity, especially as submarginal lands are taken out of agriculture and put to their highest use as a watershed cover. The work will be very largely demonstrational in character and is designed to show how far simple practices can be used to keep lands from destructive erosion.

Dr. Lowdermilk is being granted leave of absence from the Forest Service to undertake this new activity.

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Cedar Breaks, formerly a part of the Dixie National Forest in Utah, was set aside as a National Monument by Presidential Proclamation, signed August 25. This monument, which covers approximately 5,790 acres, is about 20 miles from Zion National Park. It is a series of amphitheaters, eroded to a depth of 2,000 feet in the Pink Cliff formation at the summit of the plateau. The forested rim of the Breaks attains an altitude of 10,400 feet. The principal charm of this area lies in its blazing color. The cliffs are white or orange at the top, breaking into tints of deep rose and coral in the huge bowl, which displays an innumerable array of unique erosional formation. One artist has counted more than sixty tints in Cedar Breaks. The Office of National Parks, Buildings and Reservations of the Department of the Interior will have supervision over this new National Monument.

COMMITTEE APPOINTED TO INVESTIGATE OREGON FIRES

A committee to investigate the causes of recent disastrous forest fires in Oregon, outline a campaign of education, and recommend legislation to guard against further forest losses was recently appointed by Governor Meier . The committee, which will report its findings to the Governor prior to the 1935 legislative session, is composed of C. J. Buck, Regional Forester, U. S. Forest Service, Lynn F. Cronemiller, State Forester; and Thornton T. Munger, Director of the Northwest Forest Experiment Station.

"The disastrous forest fires in Oregon during the last few years, resulting in the destruction of millions of dollars in timber values, has prompted me to secure a report as to their causes in the belief that public interest demands that everything within reason be done to minimize the recurrence of such fires," a statement issued by Governor Meier read.

"Oregon is reputed to have the most progressive forest laws and the best statewide protection organization in the union, and yet I cannot help believing that somewhere in our policy of timber operation and use of the forest for recreational purposes we have neglected to place that protection around our forests which a prudent and thoughtful people should demand." - From the Morning Oregonian

FOREST COVER RETAINS OVER 99 PERCENT OF RAINFALL

That vegetative cover does have a marked effect on surface run-off of rainfall was conclusively proven by experiments at the Holly Springs ,Mississippi ,Branch Station of the Southern Forest Experiment Station, during the winter of 1931-32. During 70 days of this winter 27 inches of rain fell, of which 62 percent ran off the surface of a cultivated corn field and 54 percent off the barren soil of an abandoned field. In contrast to this enormous run-off, less than ½ of 1 percent of the rainfall ran off the surface of a virgin oak forest and off an unburned native grass plot, and only 2 percent ran off a scrub oak covered plot. The run-off from the corn field carried with it soil at the rate of 34 tons per acre. - From Southern For. Expt. Sta. Forestry Notes.

ACCOMPLISHMENT

A casual note on the end of an inspection report of a California cutting area records a worthwhile bit of work. The sale was operated part time last winter. The officer in charge "set fire to and burned some 700 snags at odd times while doing his regular supervisory work," while the ground was snow covered. These snags were on an old burn nearby. Anyone who has been in or had contact with fire control in California knows the value of bringing those snags down.

DIRECT SEEDING CAN SOMETIMES BE USED IN REFORESTATION

In some European countries direct seeding is a common method of reforestation. Several attempts have been made to establish forests by direct seeding in this country but only rarely has success been attained.

The Station has been working on this problem for three years and, in addition to the failures commonly obtained ,there have been some surpising successes. Best results were obtained on the Moquah National Forest where approximately twelve acres were sown last spring. The seeds were dropped in furrows and stepped on. In the fall there was an average of 2,800 seedlings per acre on the area sown. A two-acre strip was cultivated with a disk harrow and the seed sown broadcast on the disked soil. This strip had an average of 4,240 seedlings per acre in the fall. Jack pine seed mixed with small quantities of Norway and white pine and Norway and white spruce was sown. In the resulting stand, jack pine comprised 78 percent and Norway pine 17 percent, with 2, 2, and 1 percent for the other three species in the order named. The cost of this work was approximately $1.95 per acre distributed as follows: seed $1.00, plowing $0.60, and sowing $0.35. Equally good results have been obtained elsewhere with Norway spruce and Norway pine.

The requirements for success appear to be: (1) suitable soil preparation, (2) sparse population of seed-eating birds and rodents, and (3) sufficient rainfall during the period of germination. - Technical Note, Lake States For. Expt. Sta.

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FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol. XVII No. 22 Washington, D. C. October 23, 1933

TWENTY SEVEN PERCENT SAVING IN E. C. W. OVERHEAD

(From a letter written by the Forester to Robert Fechner,
Director of the Emergency Conservation Work)

Your letter was received just as I was on the point of sending you some information about the employment of civilian personnel which will, I am sure, be very gratifying to you and the President. According to the authorization given us by you and approved by the President, we would for the number of camps under the Department of Agriculture have been entitled to employ 17,811 men, whose total monthly wage at the authorized rates would have been $2,645,000. However, by utilizing enrolled men to the fullest possible extent, by practicing economy both as to the number and rates of pay of civilians employed, and by similar measures, we find that by a census taken as of August 1, at the height of the work season, there were employed in the Department of Agriculture camps 13,589 men of a supervisory and technical character at a total monthly wage of $1,930,000, which is a saving of $715,000 per month or approximately 27 percent less than that authorized. I am sure you will agree with me that this is striking evidence of the good faith of the Federal and State services operating under the jurisdiction of the Department of Agriculture in meeting your and the President's desires for economy in this direction.

In this connection, may I point out that the proposed new ECW wage rates which are now awaiting the President's approval would, on the basis of the men actually employed as stated above, produce a monthly wage bill for the number of camps which the Department of Agriculture had during the summer season of approximately $2,800,000, which is only $200,000 per month more than would have been incurred under the old rates had we used as many men as were authorized. It seems to me that this is a very strong reason for approving the proposed new schedule of wages.

REGION 7 MOVES FROM ATLANTIC BUILDING

Region 7 headquarters in Washington were recently moved from the Atlantic Building, 930 F Street, to the Victor Building, Ninth Street and Grant Place, N. W. This move was made necessary because of expansion of Forest Service work required to take care of Emergency Conservation and National Recovery Act projects. The space vacated in the Atlantic Building has already been assigned to Washington Office personnel.

EROSION IN THE BLACK HILLS

By M. W. Thompson, R. 2

Much attention has been given by foresters and irrigation engineers, especially during the past few years, to the problem of erosion and the protection of drainage basins. Numerous surveys have been made to determine the extent and seriousness of the problem of erosion, and detailed studies have been initiated to determine the effect of the removal of the natural cover of forests, brush, and grass upon erosion and run-off.

In view of the serious situation regarding erosion and the silting of streams and reservoirs that exists on so many areas in the West, largely as a result of excessive grazing or fires, conditions in the Black Hills region of South Dakota and eastern Wyoming afford a striking and convincing illustration of the protective value of forest cover. A notable example of severe erosion immediately following the destruction of the forest cover by a disastrous fire in contrast with the very satisfactory protection afforded by forest cover on an adjacent area may be found near Rochford in the Black Hills National Forest. The destruction of the protective cover was the only change that occurred prior to the time the erosion took place - all other factors remaining unchanged. So the direct relationship between the existence of a forest cover and erosion stands out clearly.

Conditions throughout the timbered portion of the Black Hills region, which includes between one million and two million acres, are generally ideal as regards ground cover and its effect upon the prevention of erosion. However, forage is not abundant on the more densely timbered areas. The grasses are of unpalatable species and grazing is relatively light. As a result, there is seldom heavy trampling by livestock with resultant compacting of the soil, which creates conditions especially favorable for rapid run-off. The drainage basins are generally well timbered and a thick mat of humus and litter covers the ground. This thick layer of vegetable matter apparently is a very important factor in delaying run-off and in preventing erosion.

Reproduction of ponderosa pine comes in abundantly on sites suitable for tree growth, especially where the soil is coarse and light. As a result young forests are becoming established on many bottom lands and slopes that formerly supported only a cover of grass or were farmed. In fact, there are few burned-over areas in the Black Hills that have not become stocked with ponderosa pine trees within a period of ten years after the fire occurred. Consequently, as one observes the hillsides from the small openings along watercourses in the timbered portions of the Black Hills, one is most favorably impressed by the almost unbroken pine forest that lies before him.

On some areas within this region, there has been a considerable amount of active erosion during past years. However, the old gullies have generally become well sodded, indicating that the former surface run-off and the accompanying active erosion have been effectively checked. Frequent examples of such "healing" of former erosion may be found.

In contrast to the conditions with regard to erosion and run-off just described, the situation that exists in the northern portion of the Black Hills where the forest was destroyed by the disastrous fire near Rochford in the fall of 1931 is significant. Incendiaries set a number of fires, which burned over an area of 22,000 acres and were extinguished only after a 10-day battle by 3,800 fire fighters. On many slopes all of the trees, as well as the cover of grasses and weeds, were killed; duff and humus were completely burned.

The effect of this destruction soon became evident. During the year following (in 1932) rains washed down the bare hillsides carrying quantities of rock and earth to the valleys below. Deep gullies were washed in the bottoms. Homesteads were covered with silt, rocks, and debris.

This destructive erosion was very pronounced along the road paralleling South Rapid Creek. A culvert in the road was washed out on three different occasions, and the bridge which finally was installed was washed out and had to be replaced, although no such damage occurred before the adjacent slopes were burned over. The stream bed was deeply gullied and large-fan-shaped deposits of detritus varying from a few inches to four feet in depth were washed onto the homestead meadow lands. The rains causing the damage were heavy, but they were not abnormal in character. It is significant to note that no gullying, depositing of soil and rocks, or washing away of culverts, bridges, and road beds occurred in other comparable situations where the cover on the near-by slopes had not been destroyed or damaged by fire. The situation which exists on the burned areas had clearly demonstrated to all who have visited them the importance and value of maintaining forest and other cover in order to prevent erosion.

The conditions described indicate the importance of keeping watersheds green if serious erosion is to be avoided.

MORTALITY IN LONGLEAF PINE POLE STAND AFTER A HARD FIRE

By A. L. MacKinney, Appalachian For. Expt. Sta.

Four permanent sample plots of the Appalachian Forest Experiment Station, which had suffered no fire for twelve years, were burned over by an accidental fire on December 19, 1931, after a long period of very dry weather. These plots, ranging from .2 to .3 acres each in size, were located in a 30-year-old second-growth stand of longleaf pine containing 280 trees per acre. This stand included also a few large longleaf pines from 13 to 19 inches in diameter which had been left at the time of the last cutting.

The fire was very hot, consuming all of the litter, which averaged 7,000 pounds per acre oven dry, and scorching the bark up to an average height of seven feet. Observations taken two months after the fire showed that 100 percent of the foliage had been browned on 64 percent of the trees; 80-99 percent browned on 12 percent of the trees; 50-79 percent on 67 percent of the trees; 30-54 percent on 5 percent of the trees; and 1-29 percent on 13 percent of the trees.

Reexamination of the trees 11 months after the fire showed a high mortality - 57 percent of the trees on the plots had succumbed. The data taken indicated that the percentage of crown browning apparently was associated with mortality, although other factors were operative. The percentage of trees that died in each of the defoliation classes was as follows:

Percent defoliated	100	80-99	50-79	30-54	1-29
Percent mortality	73	50	47	25	6

The smaller trees which suffered heavy crown injury showed the highest mortality.

THE SIERRA WAY

By Bruce B. Burnett, R. 5

In the 160,000,000 acres of National Forest land in the United States there are, existing or proposed, 65,000 miles of minor roads and 16,500 miles of major roads.

Eighty-five percent or 70,000 miles of the forest road system is located in the 11

Far Western States. Twenty-eight percent, or 22,700 miles, is in the National Forests of California.

These roads are essential for administration, protection, and development of the forests; for marketing forest resources and the products of farming and other industries of the region; to aid the counties comprising the National Forests in developing a transportation system, and to make accessible the forest areas for use and enjoyment by the public in general.

For those who desire the peace and quiet of the forests away from the beaten path, there is no occasion to be alarmed at the apparent intrusion of roads. In the National Forests of the 11 Far Western States there are 1,748 whole townships, representing 62,928 square miles, without roads of any kind. In California, 202 townships, or 7,272 square miles, - almost the combined area of the States of Connecticut, Delaware, and Rhode Island - have no roads and 18 separate parcels of National Forest lands, more than 3,000 square miles, outstanding in scenic values, have been definitely set aside as primitive areas into which no roads may be constructed.

Commercial travel between the Pacific Coast and the great centers of population east of the Sierra Nevada Mountains and the ever increasing demand of tourists have resulted in the construction of several high standard roads across the range from east to west. Scattered sections have been constructed or planned in a northerly and southerly direction in order to connect communities and to reach important points in the National Forests not served in the east-west system. There is no continuous modern highway extending the length of the Sierra, however, nor had any been planned until the recent inception of the Sierra Way.

The road, which has been named the "Sierra Way", will connect or make easily accessible practically all of the well-known scenic and historic attractions of the Sierra. Notable among these are Mt. Shasta, Mt. Lassen, and Mt. Whitney, the latter being the highest mountain in continental United States. Important rivers include the Feather, Truckee, Stanislaus, Tuolumne, King, and Kern. McArthur Memorial and Calaveras Big Trees State Parks, with their waterfalls and giant sequoias, and Mt. Lassen, Yosemite, General Grant, and Sequoia National Parks will leave unforgettable and pleasing memories. Add to these Lake Tahoe, Donner Lake, many smaller mountain lakes and streams, many localities associated with such historic characters as General Fremont, Kit Carson, Bret Harte, Mark Twain, and others, the constantly changing panorama of virgin forests, woodlands, streams, green meadows, mountain settlements, summer resorts, and homes, and it becomes evident that a veritable wonderland will be opened to the public. Fish and game are found throughout the region and comfortable camping sites are available almost everywhere. In addition, the project will have commercial and forest protection values comparable to many highways planned especially for these purposes.

Since the Sierra Way is proposed principally because of its natural scenic, recreational, and historical values, special attention will be given to location and construction so as to secure the greatest advantages possible from these conditions. Where located over National Forest lands, as is the greater part of the road, the Forest Service plans to set aside a wide strip on each side of the highway on which protection and development of esthetic values will be given careful attention.

Because of the urgent necessity for road improvement elsewhere, Forest Service officials are disinclined to stress the desirability of immediately constructing the Sierra Way. Such a highway, however, constituting as it does the main artery of the forest road system in California, surely will be developed in the course of natural events. It is the hope and aim of the Forest Service to obtain at this time the cooperation of all interests, particularly the owners and administrators of lands affecting the project outside the National Forests so that as each unit is constructed it will conform to the general plan and thus assure a uniformly pleasing highway throughout.

OLD TIMER'S LAMENT

Things ain't like what they wuz in this here Forestry Service. Onct we felt ez how we wuz lucky iffen we could ride eround on a rough ridin' bronk but now we hev ter hev adjustable 16 inch mohair cushions ter set on.

An the woods air full of majors, leftenants, triple Cs, trucks, cats, graders, bulldozers, patent toilets, and all sich like.

An the old ranger cabins whut uster hev the cracks stuffed up with mud an moss hez all been tore down an spick an span new houses put in thur places - houses with plaster on em an furnaces an bath rooms - all of white chiny. Why, I kin remember if an when we bathed we used a coal oil can in the kitchen an washed our faces in a tin wash dish an walked a quarter mile er more to the wood pile every time we wanted a few sticks of wood.

An the smoke chasers air packin radios on their backs ter fires an roads are bein built ter all the peaks an knobs an up all the cricks an down all the ridges an lookouts hez steel towers an real houses ter live in.

Purty soon thar ain't a gonta be any place whar a feller kin act natural like talkin to hisself er, - well act natural, fer fear some dude might come rarin round an spy on him. -

Old Timer

MORE INDIAN AND OTHER EARLY FIRE

The early forests of the Atlantic Coastal Plain probably had few real openings of consequence. Hugh Jones in his book published in 1724 stated, "The whole Country is a perfect Forest, except where the Woods are cleared for Plantations, and old Fields, and where have been formerly Indian Townes and poisened Fields and Meadows, where the Timber has been burnt down in Fire-Hunting."

Apparently the practice of burning the open range was practiced at an early period. According to Bernard Romans (1775) the object was to improve the grass and to develop better feed. Even at that time, however, there were those who did not believe in the use of fire. Thus Governor Dobbs of North Carolina complained bitterly (1752) of the practice of woods burning to improve the range or to burn the range with the idea that it eliminated the ticks. These fires, he asserted, injured the soil and the quality of the range. Early North Carolina law required that throughout the Province the range be burnt annually. This law was later repealed. - E. N. Munns

YE EDITOR DISCOVERS

Since the Wilson River, or Tillamook, Fire in Oregon is not our direct responsibility, it offers an opportunity for objective analysis which is often rendered difficult in the case of our own fires where someone is likely to have troublesome emotions about his own personal responsibility.

The reports on this terrible fire which destroyed nine or ten billion feet, indicate that this is the long-awaited fire which could not possibly have been suppressed until it finally stopped as a result of weather conditions. Maybe so, but a seasoned student of fire histories is made suspicious by omissions in the reports. One is naturally curious to know if there was actually no possible opportunity to stop this fire from the time it started on August 14 until it stopped of its own accord in September. There may be such a thing as a fire which is uncontrollable from its inception to the date on which it is finally stopped by natural causes but it is difficult to think of one. The normal large fire has its own peculiar rhythms. There is a first run, a pause, a second run, another pause, a third run, and so on. Were there no pauses in the history of this fire during which, if line had been made and mopped up fast enough, control could have been attained with a loss of only part of the actual final total loss?

It has been said that there was a three to five-day period of rain or fog after the first run and at a time very early in the history of the fire when it had covered only a small portion of the final area. What happened during those three days? The reports are far from clear.

And this brings us to the real point. If we really want to educate the public (and ourselves), should not every report or statement concerning one of our deplorable large fires talk in terms of runs and rhythms and opportunities to catch the fire? By implication at least, we teach the public to believe that these huge losses are unpreventable. Such teaching may avoid hurting the sensibilities of men nominally or actually responsible, but where does it get us in the long run? If the public believes our constant implications that big losses such as in this case are unpreventable after the fire starts, then the public has every logical reason for refusing to support protection appropriations.

How high a price are we willing to pay in order to avoid hurt feelings? Are we willing to pay the price of letting the public believe that, after all, protection of our best timberland is hopeless? That would be a pretty stiff price to pay in order to avoid hurting anyone.

Even if we cannot bring ourselves to the point of accurate reporting of cases where the big fire paused and the men and equipment were adequate to corral it if management had been up to the requirements of the job, we could at least inject into our publicity and our reports some mild consideration of pauses, if any, in the spread of the fire, the rate at which the available men and equipment should be able to create control line and the amount of line needed to corral the fire.

When a fire has not been corralled because of error in estimating the size of the job or failure to get line produced at a reasonable rate, we could say that "a wind came up" or that "a spark came from inside the fire" if we did not want to face unpleasant facts. But even if in the end we thus let down in the accuracy of our reporting, any swing even during the reporting of the earlier stages of a fire toward the vital engineering facts and the plain logic of fire fighting would be a fruitful change from the mysticism which colors so much of our fire reporting.

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Men at work on October 9 from Devnira and Impnira were as follows: Region 1, 1,500; Region 2, 1,292; Region 3, 1,643; Region 4, 1,965; Region 5, 240; Region 6, 1,696; Region 7, 410; Region 9, 1,975; Research, 243; Washington Office, 1; Total 10,965.

Highlights of this score are brought out in the following comparisons:

	Percent of total allotments	Percent of men Employed Oct. 9
Region 5	21	2.2
Region 7	13	3.7
Region 9	9	18.0

A statistician would deduce that the way to get men employed promptly, as desired by the Public Works Administration and promised by the Forest Service, is to make small allotments to Regions. And this might be a correct conclusion. Region 9 may be figuring on getting its work done promptly in order to get more money with which to do more work. Such a scheme might succeed.

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The meeting of the lumber industry with Department of Agriculture representatives, proposed in the NRA lumber and timber code, will be held in Washington on October 24, 25, and 26. The purpose of the meeting is to work out policies and practices under the forest conservation paragraph of the code. Various timber producing and timber owning groups will be represented, including the National Lumber Manufacturers Association, pulp and paper manufacturers, naval stores producers, National Grange, American Farm Bureau Federation and possibly one or two other groups. Representatives from the forestry groups will include the American Forestry Association, American Tree Association, Association of State Foresters, the Forest Schools, Indian Timber Service, State Farm Extension Service, Society of American Foresters, and the Forest Service.

Much of the work of the conference will fall upon the Forest Service as representing the Department and the Secretary of Agriculture. The program for the meeting is now in process of being formulated. In general it will endeavor to point out the practical measures necessary on the ground for the conservation and sustained production of the Forest resources.

R. D. Garver of the Forest Products Laboratory and Raphael Zon, Director of the Lake States Forest Experiment Station, are in Washington assisting the Forester's office in the development of the forestry phases of the program.

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L. F. Chapman, Superintendent of the Florida State Farm, is convinced that the CCC camps have been responsible for keeping boys out of jail. In a recent letter he says that "while in 1932 twenty five percent of the men received at this institution were under twenty-one and seventy-five percent were under thirty years of age, since the opening of the CCC Camps our receipts of new convicts have dropped to an almost negligible figure. About 1,300 men were received in 1932. If the ratio of present receipts is continued, I doubt if the number this year will reach four hundred. This is to be accounted for in my opinion by the fact that the young men are not drifting about the country. Heretofore they have been standing on the street corners in the cities, hitchhiking on the highways and drifting from town to town on the railroads, having no income and of course hungry most of the time. They have been breaking into grocery stores, robbing filling stations and holding up men on the roads, of course many of them are arrested and sent to our institution."

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We have become accustomed to ECW, Acqui, Devnira, Impnira, Resnira, and Hynira. But just as we get them all running almost smoothly we have added unto us Hegira, Diaspora, and the October Revolution. These last refer to the transition of ECW camps from summer to winter quarters, the efforts to decide the equipment that camps should take with them when they Hegira from summer to winter quarters and the Revolutionary chaos which has been injected into ECW financing, management of ECW camps on the ground and ECW records. If we survive Hegira, Diaspora, and the October Revolution, the future of the Forest Service should be secure, come what may.

SELECTION SYSTEM OF PULPWOOD CUTTING PROFITABLE

The results of a recent study by the Southern Forest Experiment Station of the relative advantages of the clear cutting and selection systems of pulpwood production in shortleaf and loblolly pine indicate that while immediate returns are higher from clear cutting to a 5-inch diameter limit, the returns over a 10 to 12 year period are much greater from use of the selection system.

The selection system used is based on a set of specifications drawn up by the Station. In brief, these advocate leaving 1 seed tree 10 inches d.b.h. or larger on each ¼ acre; cutting all other trees over 9 inches d.b.h.; and a certain proportion of 6 to 9-inch trees, depending upon the condition of the stand. In irregular stands with a wide range of diameter classes and uneven crown canopy and poorly stocked with reproduction now on the ground, not less than 50 trees (6 to 9" d.b.h.) should be left per ¼ acre, while in such stands well stocked with reproduction not less than 25 trees (6 to 9" d.b.h.) should be left per ¼ acre. In even-aged stands or stands of uniform diameter, in order to preserve the growing stock, the following rules are advocated:

1. Leave 1 seed tree 10" or more d.b.h. per ¼ acre
2. In stands averaging 11" d.b.h. or more, leave all trees below 9" d.b.h.
3. In stands averaging 8" d.b.h., leave at least 50 trees 6 to 10" d.b.h. per ¼ acre, spaced not more than 15 feet apart.
4. In stands averaging 5" d.b.h., no cutting should be permitted.

Contrasting this selection system with a system of clear cutting to a 5-inch diameter limit in one stand of shortleaf and loblolly pine in north central Louisiana gave the following results:

The present volume of the stand is 19.2 cords of pulpwood per acre. Cutting under present practice 5" diameter limit) would remove 19.05 cords, which at the rate of 50¢ per cord net is worth $9.52. The 0.15 cords left on the acre would increase in the next 10 years to but 0.95 cords worth 48¢. Under the selection system the 5.0 cords left would increase, in the same period, to 9.4 cords, of which 4.4 cords worth $2.20 would be cut at each 10-year period. Discounting both these expected returns back to present values (at 4 percent compound interest) gives, for the clear cutting system, a present value for the cut 10 years hence of 32¢, and for the present value of the series of cuts coming each 10 years, $4.58. The total present value of the stand under the clear cutting system is, therefore, $9.52, plus 32¢ or $9.84. The total present value of the stand under the selection system, however, is $7.10, plus $4.58, or $11.68, equivalent to an interest return on the investment of 6.5 percent, or a return of $1.74 more per acre than by clear cutting. Furthermore, under the selective system, stand improvement would be rapid, so that values up to $20 or more per acre would accrue, whereas no such improvement would be possible under the clear cutting system. - From Southern For. Expt. Sta. Forestry Notes

COMMUNITY FOREST PAYS TAXES FOR FORTY SEVEN YEARS

Orsa, in Dalecarlia, Central Sweden, distressingly advises the world that they have been compelled by present conditions "to pay a local tax for the first time in forty-seven years." In 1886 they acquired a large community forest, "the income from which has ever since been meeting all parish expenses, including those for roads, bridges and schools." Now, after "nearly half a century of tax exemption, the people of Orsa have been compelled to put their hands into their pockets to pay their public expenses." Thus a financial Utopia, one of the rarest objects on earth, may not again recover its enviable position. - From the Bulletin of the National Tax Association, June 1933

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol XVII No. 23 Washington, D. C. November 6, 1933

WE MOURN OUR CHIEF

With grief beyond measure, the Forest Service records the loss of its loved, trusted, and honored Chief. Major Stuart died at his post of duty. Though ill, he came to the Atlantic Building Monday morning (October 23) betimes, to enter upon the work of the week. Before the official opening hour, his work and life had reached their sudden and tragic end.

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Officials in all branches of Government Departments in Washington are deeply shocked by the death of Major Stuart.

Word of the tragedy reached Secretary Wallace in New York by telephone. "I am profoundly moved," the Secretary said. "Major Stuart was carrying tremendous responsibilities in connection with the emergency programs. His death is a great loss to all of us, both personally and officially. He was an efficient, highly respected public servant, not only in the national task of rehabilitating our forests, but also in the new and strenuous work of guiding the forestry work of the Civilian Conservation Corps and of helping with many phases of the public works program."

"Major Stuart made lasting and noteworthy contributions to American forestry," Assistant Secretary Tugwell said. "Under his direction we have seen the development of a cooperative policy in forestry, a policy which coordinates the activities of Federal, State, and private interests in timber and water conservation. The 'National Plan for American Forestry,' for which he was so largely responsible and which he placed before Congress during the last session, is a monumental piece of work. For the first time it lays the foundation for a national program of forest planning. This broadly conceived plan synthesizes the best and most forward-looking ideas in Federal, State, and industrial forestry and, when finally adopted, will guarantee the permanence and wise use of our forest resources.

"Under Major Stuart's leadership we have seen the development of a comprehensive forest research program as authorized by the McNary-McSweeney Act. We have seen a rapid improvement in efficiency of National Forest administration, resulting in a marked increase in the effectiveness of fire control which resulted this year in the lowest losses ever recorded on the National Forests. He was responsible for the establishment of the primitive area and natural area policy which insures the permanence of unmodified areas of forest land for educational, scientific, and recreational purposes; and for the establishment of a new policy of grazing use on the National Forests, under which the fees are based on livestock prices rather than on a fixed-price basis. Major Stuart was vitally interested in and saw the completion of the Forest Taxation Inquiry which proposes an equitable basis of taxing forest lands; he showed that a fair tax system should insure that conservation areas carry their fair share of the tax burden but at the same time should not prohibit or discourage their utilization for conservation purposes.

"I recently visited a number of the National Forests. I was deeply impressed by the efficient organization which Major Stuart supervised. I know that the entire Service and all citizens interested in conservation will miss his leadership in a field to which he devoted his life."

Major Stuart became Chief Forester in 1928. He entered the Forest Service in 1906 as a forest assistant immediately after his graduation from the Yale School of Forestry. For the past 27 years - with the exception of the War period when he was a commissioned officer in the Forestry Engineers' branch of the A.E.F. and for a time when he was Deputy Commissioner and later Commissioner of Forestry in Pennsylvania - Major Stuart was engaged in conservation work for the Federal Government. He literally grew up in the Service, entering the Forest Service just one year after it was established under President Theodore Roosevelt.

Since 1928 the United States has made a large extension of the National Forests, particularly in the Eastern States. Major Stuart worked tirelessly for this acquisition program and was recognized as a leading exponent of Federally managed forests.

He was a member of the National Park and Planning Commission and of the Society of American Foresters.

We of the Forest Service knew him best and worked with him in his various tasks undertaken in the full spirit of the Forest Service ideal of the Nation's best interest. He earned our loyalty, our respect, and commanded our utmost effort. To the many tributes from his fellows in official life we add our own of affection and esteem and deepest sorrow.

A FUEL HYGROGRAPH

By H. T. Gisborne, Northern Rocky Mt. For. Expt. Sta.

In order to obtain more continuous records of certain factors of fire danger at lookout, smokechaser, and guard stations, automatically recording instruments are needed so that even when the station operator is away chasing smoke the record will not be lost. Hygrothermographs serve this purpose for humidity and air temperature, and recording anemometers are available - at $225 each - for wind velocity. But until recently there was no method for automatically recording duff and wood moisture.

Last March, starting with a crude sketch that might have been attributed to Lucifer K. Butts, the writer described to M. E. Dunlap, of the Forest Products Laboratory, the objectives which we hoped to attain instrumentally. Matt promptly went into a huddle with himself, called a few signals to the instrument shops of the University of Wisconsin, and by mid-July "Mrs. Robot," as this device is now called, was on her way to a touchdown.

Operated continuously from July 20 to September 20, this instrument gave us the first minute-by-minute record of duff and wood moisture ever obtained. In addition, Dunlap had incorporated a wind record, thereby eliminating the $225 cost of a single magnet register. The present instrument is, therefore, really more than a fuel hygrograph, but the only other appellation proposed - "Forest Xerograph" - sounded somewhat too epideictical for everyday use.

This new device can be duplicated at a cost of $255 if the purchaser furnishes his own three or four-cup anemometer, or for $331 complete. With a $60 hygrothermograph and a $1.25 rain gauge operated in conjunction with the fuel hygrograph, it is now possible to obtain all the data needed at a Class A forest inflammability station. If this price seems high it is necessary only to consider the cost of $516 for a quadruple register recording wind direction, velocity, sunshine, and rain, as is used at every "first order" weather station in the United States. And none of our instruments use those troublesome electric storage batteries, with their additional cost.

The Northern Rocky Mountain Station is now planning a detailed study of fuel moisture and weather on north versus south slopes from 2400 feet elevation up to 5700 feet. This information has an immediate use in fire control, (1) by revealing accurately the beginning and ending of inflammability according to exposure and elevation, hence the need for smokechasers, and (2) by showing the relative speed of attack warranted, fuel types being similar. As such a study demands measurements at numerous stations, all made at the same instant, the work could not be done economically except by automatically recording instruments like Mrs. Robot.

NOTES ON REFORESTATION AND ENGINEERING IN THE FRENCH ALPS

(Abstracted from the report "La Restauration des Alpes" of Inspector-General M. P. Mougin, Service des Eaux et Forets to the Ministry of Agriculture, France, 1931, with comments by Arthur C. Ringland)

The ten political departments of the French Alps embrace an area of 14,031,988 acres or somewhat less than the area of the State of West Virginia but with a population twice as great. Humid winds carried from the Atlantic and the Mediterranean result in prolonged rains. Due to the geography and geology of the region, the precipitation results in excessive run-off, in landslides and avalanches, and in disastrous floods. Since the beginning of the 15th century the damage recorded in loss of lives, livestock, agricultural lands, buildings, roads, and bridges amounts to a staggering sum.

Legislative measures to combat the effect of torrential waters were undertaken in early days but it was not until the middle of the 19th century that comprehensive action was taken. The laws of July 28, 1860, and of June 8, 1864, providing for the reforestation and the regulation of grazing of mountain lands were notable in this respect and provided for the declaration of areas of public utility, i. e., the establishment of so-called "perimeters of restoration", and for subventions in kind and in money to aid the communes and private owners in the work of reforestation and improvement of pasturage. These basic laws were greatly strengthened by the Act of April 4, 1882, and of August 16, 1913. This last law has widened considerably the field of action. The law of finances of July 31, 1920, has made possible the diversion of 40 percent of the sums "le produit brut des jeux" (gaming concessions) for the purchase of forest lands and subventions to departments, communes and associations for the reforestation of waste lands and the maintenance of nurseries. In addition to these measures, reference should be made to the restrictive laws on deforestation, protection against forest fires, and particularly the law of April 28, 1922, providing for the classification of all forests as protection forests when their conservation is recognized as necessary to maintain the soil on mountain slopes as a protection against avalanches, and against the erosion of waters and the drifting of sands. These forests are subjected to special administration.

A record of the works of restoration from 1860 to 1928 follows:

Sixty-nine "perimeters of restoration" or areas of public utility embracing an area of 474,420 acres and varying in size from 305 acres to 39,445 acres have been declared and acquired by the State at a cost of $3,902,119. There remains to be acquired 224,150 acres estimated to cost $560,674.

Until 1920 the State budget had not permitted the purchase of forests to the extent deemed necessary. As of January 1928 the State had purchased 8,132.5 acres within the Alps at a total cost of $77,417. Much progress has been made since 1920 due to the law of that year which permits the diversion of funds "produit brut des jeux" for the purchase of State forests - $58,724 coming from these sources for purchases to 1928. Plans for future purchases of State forests in the Alpine region call for the acquisition of 75,000 acres at an expenditure of $1,800,000. For France as a whole the Director-General of the Service des Eaux et Forets has presented a plan for the eventual acquisition of 2,500,000 acres in 50 years as a part of the national domain of forests.

Within the "perimeters of restoration" already acquired 34,492.5 acres are naturally wooded and 79,665 acres are not suitable for reforestation. However 241,390 acres have been reforested by the State to date at a cost of $4,266,357. There remains to be reforested 118,873 acres at an estimated cost of $1,368,585.

Some 102,180 acres have been planted by cooperative effort between the State, departments, communes and private owners at a cost of $1,016,895. There remains to be reforested through cooperative effort 270,878 acres of communal lands and 428,955 acres of private lands. If the entire State and cooperative program of reforestation is carried out, well over one-third of the Alpine area will be naturally or artificially forested, meeting the generally accepted proportion of lands that should be wooded. The principal species used are resinous - the Corsican and Austrian pine, the European larch, Scotch pine, Norway spruce, the Aleppo and Cembran pines.

The work of correction of torrents, the construction of barrages, dams, canals, drains, and the improvement of stream beds, as well as the construction of auxiliary works, such as roads, trails and enclosures has been accomplished at the expense of the State. A total of 1894 torrents, of which 339 are classified as grand and 1555 as secondary, are included as of 1928 within the field of work of this character. Well over a half of the work of correction has been completed at a cost of $6,671,061.

The total State and cooperative work of avalanche control has cost to 1928, $189,530. It should be noted that the work has been underway only since 1900.

The area of pasture lands within the alpine area is estimated to be 5,970,757 acres supporting nearly 2,500,000 head of livestock - 60 percent sheep, 30 percent cattle and horses, and 10 percent goats. The work of pasture improvement has included regulation of the range, seeding, and the construction of buildings, enclosures, roads, conduits and watering places. To 1928 the cost of this improvement was $142,286. The work is cooperative and supported in part by subventions from the State and other political units. The greater part of the work of pasture improvements remains to be done. In all 2,950,570 acres are planned for this work, of which 1,502,435 are for communal pastures estimated to cost $863,749 and 1,448,135 acres for private pastures estimated to cost $777,274.

WHAT MONTANANS THINK OF THE CCC

The following quotations are taken from a few of hundreds of unsolicited replies received to a letter, giving a brief history of CCC objectives and a summary of performances, addressed to representative citizens by Regional Forester Kelley.

From a Logger and Father:

"I have two boys in this organization. These young men were born and raised in Montana and have had a considerable experience in forest work. Both of them are high school graduates and the eldest has had one year at Bozeman, but economic conditions have prevented them from going farther and forced them into idleness, which was very discouraging to fellows of that age.

"One of my boys has been connected with a number of important activities of his camp, such as fire suppression, survey mapping, truck driving, and carpenter work under competent instructors.

"The C.C.C. venture has lifted the burden of steering these youngsters through a critical period where the drift was toward pessimism and discouragement and to my way of looking at it they are receiving an education probably as valuable to the welfare of themselves and the Nation as they would get out of college. This alone is well worth the money and effort expended and whatever other benefits your department is able to extract are velvet.

"The advent of Eastern boys entering Western forests has broadened their ideas of the vast public domains which belong to and are supported by both East and West. Many of these young fellows are going home with vanishing ideas of state or sectional lines and a broader vision of National unity of possession. Many of the people of the West living in or contiguous to the National Forests have had an erroneous idea of ownership and have resented what they thought an encroachment on their rights, but they are fast grasping the idea of a National ownership."

From a Bank President:

"The plan seemed to me a good one in its essentials; I understand that families of most of the boys enrolled were such as required relief and that the major portion of the compensation earned by the boys was transmitted to these needy families direct. It therefore seems that disregarding all other benefits, the money which would have had to be spent for relief in any event was actually paid out in the form of compensation, which to my notion is by far preferable to dispensing relief direct without the requirement of labor.

"Since receiving your letter I have noticed the press reports concerning the average increase in weight of the boys employed in this work, indicating the fine physical result. It is too bad that we have no scales capable of measuring the mental and spiritual growth which may have accrued as well."

From A College President:

"I am much interested in the description of the work done by the Civilian Conservation Corps in your letter of October 5, and also in the little pamphlet which you enclosed. It is clearly evident that this whole project has worked out a lot better than people generally expected it would work.

"I saw a number of the boys on the train one evening on their way from the camps back to their New York homes. They had fine color, and showed lots of vigor and enthusiasm. When these fellows get back to the cramped living conditions in New York, they are apt to become pretty restless there, and will want to return to the conditions which built them up physically, gave them an appreciation of the worthwhileness of honest labor, and some insight into the glories and beauties of natural mountain environment."

From a Montana State Senator:

"I was glad to get your letter and your frank statement as to what is actually being accomplished by the Civilian Conservation Corps both as to actual work and as to training of the boys. I also feel satisfied that if this information were given generally there might possibly be a different attitude toward the C.C.C."

From a District Judge:

"I do not know enough about the Conservation Plan and the C.C.C. to criticize it or commend it. The reports that I do receive of it are commendable, and I do hope it will be continued. I take this view, that any Nation that has expended as much money as the United States has expended under the administrations of Woodrow Wilson, Harding, and Hoover, for war activities and to help out foreign countries, certainly ought to expend an appropriation of three hundred millions in behalf of its own citizens who are young and unemployed."

From an Attorney:

"I have always been an ardent advocate of the conservation of our forests and was greatly pleased when President Theodore Roosevelt made it a major part of his program, although it was then greatly condemned by all those who wanted to exploit our forests and make some easy money in a very short time without regard to the destruction of our forests to the detriment of the next generation.

"I was in the mountains five weeks this summer and became fairly well acquainted with a number of the boys in one of the camps. I agree thoroughly with what you say about their character and conduct. They were all very gentlemanly. They frequently spent their evenings at the clubhouse at the lake and never gave any cause for complaint by anyone."

Another College President says:

"Thank you for your communication in regard to the C.C.C. work. I believe that all of us who do any thinking at all are aware that the program is in only a slight degree devised to get work done. The problem is social and, in my opinion, will have to be carried on in some way for many years, and the numbers involved will have to be very greatly increased before the problem is even made to approach a solution. If some such device as the Emergency Conservation work can accomplish something, it will be far better than the violent adjustments which will be the only alternative.

"My casual observations of a good many of the camp groups in Montana and Idaho impressed me very favorably."

YE EDITOR DISCOVERS

A marketing agreement between the American Turpentine Farmers Association, which represents the naval stores industry, and the Department has been given tentative approval by the Agricultural Adjustment Administration. This agreement virtually establishes a code for the turpentine and rosin producers. Of special interest to foresters is the fact that the turpentine group has inserted a conservation clause in this agreement which provides that no tree less than 9 inches d.b.h. shall be chipped and no tree under 14 inches shall bear two cups. The agreement also specifies that the industry would practice such forestry measures as would be decreed from time to time by the Secretary of Agriculture. In the group which represented the industry before the Agricultural Adjustment Administration, 80 percent of the production was represented and 62 percent of the total number of producers.

It is gratifying to foresters that the turpentine producers have been able to come under the Agricultural Adjustment Act rather than under the Industrial Recovery Act. The reason for this is that Georgia and Florida have both passed laws recognizing turpentine production as an agricultural enterprise. Furthermore, Congress several years ago passed an act that included naval stores as an agricultural commodity and permitted the naval stores people to organize into agricultural cooperatives. This decision may have far-reaching implications. For example, it opens the way to a recognition of sustained naval stores production as a farm enterprise, so that the owner of a tract can obtain long time loans at cheap rates from the Agricultural Credit Association. If such loans are worked out, it is quite possible that we shall see a number of private forest properties in the Southeast placed under a sustained yield management which will be more intensive than that practiced on the National Forests.

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Recent developments in the Tennessee Valley are of interest to foresters generally. One of the proposals now being advanced, with some assurance of its being followed through for a long period of time, is for the establishment of permanent forestry communities. In these communities, which would be organized under the Tennessee Valley Authority, the workers will be provided housing and assured work for at least a portion of the year on forestry enterprises. The location and type of work which each community would do will be worked out very carefully in advance, in order that the maximum silvicultural, social, and economic results may be obtained. The Tennessee Valley Authority also has under way the establishment of two large forestry nurseries, one to be located probably in the Clinch River drainage of eastern Tennessee and one near Muscle Shoals, probably in northern Alabama.

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An instance of fire having been started by the sun shining upon glass was recently reported to Regional Forester Peck by the Superintendent of the Rocky Mountain National Park. He said that a fishing creel was left on a refrigerator on the back porch of the Brinwood Hotel in the Park; beside the creel, but between it and the sun were some empty beer bottles. A fire started in the creel. There were no matches in the creel, no fire had come in contact with it, and there was no chance for any fire to have been communicated to the creel except by the sun's action upon the bottles. No one actually saw the fire start, but Superintendent Rogers believes that without a doubt it was caused by the sun's action upon the bottles.

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A gift of 3,646 acres of forest land has been made to the University of Idaho by the Forest Development Company of Lewiston for development of an experimental forest. The tract is on Moscow Mountain about twenty miles from the university and will be known as the Moscow Mountain Experimental Forest. While practically all the merchantable timber has been removed, undersized trees have been left intact on most of the area, so that natural regeneration will make replanting largely unnecessary. The forest will serve as a field laboratory for the training of forestry students and experimentation in methods of silvicultural management, as well as a game preserve and for recreational purposes.

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G. H. Lentz of the Southern Forest Experiment Station has resigned from the Forest Service to become Chief of the Branch of Planting with the Tennessee Valley Authority.

A SIMPLE DIAMETER TAPE

In order to take diameter measurements on a plot of small locust trees, it recently became necessary to improvise a tape for the purpose.

A large sheet of cellophane (which had come as wrapping on a shirt) happened to be available. With this as an envelope, and a narrow strip of paper as a scale, a very serviceable tape was constructed. In making this tape, the corresponding circumferences for diameters from 1 to 5 inches, in tenths of inches, were computed and measured by rule on a strip of paper about 18 inches long and one fourth of an inch wide - later a strip of tracing cloth was used in place of the paper. Around this a strip of cellophane 2 inches wide was folded several times and then tightly creased by pulling it back and forth over the edge of a plank. Thus a strip of paper bearing the scale became encased in a tough sleeve which bore all of the tension. Several inches of cellophane extending beyond the paper on each end served as handles. Rapid and accurate measurements are possible by the use of this tape; its cost is practically nothing and owing to the present wide use of cellophane it could be improvised almost anywhere. Furthermore, it has advantages in that the ordinary steel tape is cumbersome to use on small saplings because of its stiffness and its tendency to kink, while a linen tape soils quickly in such use. - F. C. Craighead, Bureau of Entomology.

GROWTH OF HARDWOODS

Any authentic record of the growth that takes place in a forest partially cut is of interest. It is indicative of what forests can do under systematic forest practice.

A hardwood forest of sugar maple and hemlock in Oneida County, Wisconsin, was cut rather heavily in 1892. The logger, however, left standing at that time some 250 trees to the acre. Of these, 200 trees were from one to five inches in diameter, 40 trees from six to nine inches, and 10 trees from ten to sixteen inches in diameter. There were left in the larger trees some 1200 board feet.

In 1932, or 40 years later, this forest was cut again. About 7720 board feet were cut in the form of 200 trees per acre. In addition, a little over 1000 board feet were left standing in healthy promising trees. Further, 1300 board feet represented cull in the form of broken and defective trees. The total gross volume was, therefore, in round figures 10,000 board feet. If we deduct the 1200 board feet left in 1892, the total growth in 40 years was 8800 board feet. In other words, the forest grew at the rate of 220 board feet per acre per year. Allowing even 20 percent for cull, this represents a net growth of 176 board feet per acre per year.

If such growth is possible in a haphazard cutting (the cutting of 1892 was a trespass cutting), a greater net growth should be obtained under forest management. - Technical Note, Lake States For. Expt. Sta.

FIRE IN PASTURES!

The Kansas Agricultural Experiment Station has under way an experiment in fire as a part of pasture management. The station's report for 1930 upon this study follows:

"Burning was done at four periods on two types of bluestem pasture to determine its effect on the yield and succession of vegetation, on the time growth starts in the spring, on weed and brush growth, and on the fertility of the soil. Late spring burning was found to reduce the density of the vegetation. It was also detrimental to the bunch grasses, such as little bluestem, resulting in a succession to big bluestem and Indian grass. Burning had no effect in controlling weeds or brush unless it was done in the late spring, after approximately April 20. Counts made of the vegetation on each of the experimental areas at monthly periods showed that burning promoted earlier growth in the spring."

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XVII No. 24 Washington, D. C. November 20, 1933

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THE WHITE HOUSE
WASHINGTON

October 23, 1933.

My dear Mrs. Stuart:

Mrs. Roosevelt and I were shocked and deeply grieved to learn of the sudden death of your husband and send you our heartfelt sympathy in your great sorrow.

Major Stuart's eminent services to the Government have earned the gratitude of the country and his loss will be keenly felt by all of us.

Very sincerely yours,

FRANKLIN D. ROOSEVELT

When a layman first comes into contact with the Forest Service he is most impressed, if my own experience is any criterion, by the unity of purpose, the enthusiasm, and the esprit de corps to be found there. It is true that these things are a product of a vigorous tradition, but traditions of this sort do not prosper unless there is leadership to nourish them. In his kindly, unselfish way, Major Stuart supplied such a leadership during his service as Forester. He was true to the finest traditions of the Service.

Of Major Stuart's many contributions to the cause of conservation, of his unceasing efforts in behalf of the emergency program inaugurated by this Administration, it would be difficult to speak too highly. At the moment, however, I want simply to pay tribute to his qualities as a man. I shall always remember him with admiration and with affection.

R. G. TUGWELL

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In the accidental death of Chief Forester Robert Y. Stuart of the U. S. Forest Service, the American people lost one of the stanchest defenders of the Nation's natural resources and one of its ablest administrators. In his patriotic devotion and vision, Major Stuart foresaw the far-reaching benefits of President Roosevelt's plan to improve the forests for the benefit of all the people and to use them for the special purpose of giving hundreds of thousands of young men a chance to work, to develop their abilities and character amid wholesome surroundings in the great outdoors, and to help their families out of the slough of depression.

When the call of duty came, Major Stuart was found ready, and at all times thereafter he threw his own energies and experience and the strength of his established organization into the titanic effort which made a great success of the President's emergency conservation project. His thorough knowledge of men, his familarity with every detail, his unfailing interest and kindness, won for Major Stuart the respect and friendship of all those who with him carried the project through to its present high standing in the program of National Recovery.

ROBERT FECHNER

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The members of the Forest Conservation Conference, inexpressibly shocked at the untimely death of their distinguished friend and co-worker, Major Robert Y. Stuart, wish to record at this time their deep sense of loss in his passing and their sincere appreciation of the sterling qualities that during his many years in the service of forestry have called forth the respect and esteem of all who knew him. In view of the unselfish service of Major Stuart through his many years, his great contribution to the advancement of forestry, his unswerving faithfulness to duty, and the high standard of personal integrity in public office which he ever upheld, it may be truly said that he devoted his life in the service of his country.

(Resolution adopted by the Forest Conservation
Conference Meeting in Washington, October 26)

FOREST CONSERVATION CONFERENCE

The conference of lumber and timber products industries and other agencies with Department of Agriculture representatives, provided in Article X of the NRA lumber and timber code, was held in Washington on October 24, 25, and 26. The three days allotted being insufficient to complete the work planned, the conference will reconvene December 14. Secretary Wallace in opening the conference said:

"This is the first time that the lumber and timber products industries as a group have committed themselves to a policy of conservation and sustained production of their basic resource, the forest. This commitment is evidence of the crystallization of a new attitude which has gradually been growing up within the industries. It constitutes a major step in the evolution of American forest industries. To the extent that it can be carried out, a migratory industry, based on speculative exploitation of timber which it did not grow, will henceforth be replaced by a permanent industry, based on timber that is grown according to definite plans. Individualism, guess-work, and competitive skimming of the cream of natural resources will give way to teamwork, long-term planning, and concerted action to conserve the resources for future use. These are essential to permanent industrial recovery. Cooperative action within the industry and between the industry and the public for the purpose of promoting the general welfare is the underlying philosophy and objective of the National Industrial Recovery Act."

In presenting the Forest Service proposals for Conservation practices, Associate Forester Sherman said that the conference "ought to go down in history as the turning point in the handling of privately owned timber lands. I hope the outcome of this conference will be a Magna Charta for the private forests of our country - recognition that these forests are not a passing stage in the use of land but that they are entitled in their own rights and on their own merits to occupy permanently, and without the constant threat of being destroyed, a legitimate share of our land.

"The era of rapid expansion, exploitation, and lavish destruction of resources is definitely at an end, A new age calls for new policies and new measures. The Governmental land policies of the past which, in keeping with the spirit of the earlier days, have been shaped by a desire to stimulate agriculture, lumbering, mining and other developments at whatever cost to the public welfare is now giving way to a new idea of conserving the remaining resources for the permanent good of all the people and the industries concerned. Planned use of these resources is to take the place of careless exploitation."

Although the conference grew directly out of the provisions of the Lumber Code, it was attended by representatives of the naval stores, pulp and paper, and newsprint industries, and of the National Grange and American Farm Bureau Federation, representing farm woodland owners, and by representatives of the United States Chamber of Commerce. In a broad sense this group represented private land owners and the forest industries.

It was also attended by representatives of the American Forestry Association, the Society of American Foresters, and the Pack Foundation. The States participated through representation of the Association of State Foresters and the State Extension Foresters. For the Federal Government there were representatives from the Departments of Agriculture, Interior, and Commerce, and the National Recovery and Public Works Administrations. In a broad sense this group represented the public.

The deliberations of the first session of the conference were built up around a series of proposals submitted by the lumber and other industrial groups and by the Forest Service and other public groups.

These proposals fall logically into two categories: (1) those relating to action by the industries and (2) those relating to action by public agencies.

The proposals were further classified and referred to six committees for study and action by the general conference on the last day of the meeting.

The main differences in the proposals for public action related to forest taxation. Here disagreement was chiefly as to the method. The industry for the most part favored the yield tax, whereas the Forest Service advised the adjusted property tax or the differential timber assessment, or some other method to obtain substantially the same results.

The divergence in point of view on general principles for woods practice proved to be one of the main differences of the conference between public and industrial groups. It was understood that the proposals on woods practice submitted at the first session of the conference would go only as far as general principles which would serve as a guide to Divisional agencies for the formulation of detailed local measures. Some of the reasons why the industrial proposals are less specific are that many of their representatives felt that they are embarking on a new enterprise and desire to make only such commitments even in general principles as they are reasonably certain can be carried out. Furthermore, many of the industrial representatives wanted to have the advantage of local measures worked out on the ground and taking all available knowledge of local conditions into account before making commitments on even general principles.

The Forest Service in its proposals for industrial action was more specific and set higher standards. This was to be expected because of past experience and of technical studies, and because the Forest Service and other public representatives were convinced that more substantial progress could be made and better local measures worked up if clearcut and specific guiding principles could be adopted by the first session of the conference.

In regard to the set-up for enforcement, the position of the industrial representatives was, in general, that enforcement is an industrial responsibility which the industry should handle without interference or check by any public agency. The position of the Forest Service was that the Federal Government should have one qualified non-voting technical advisor paid by the Federal Government attached to each Divisional agency and reporting to a Federal agency. Federal representation need not preclude the employment of foresters by the Divisional agencies nor State representation similar to that of the Federal Government where for any reason this seemed desirable or necessary.

The next action required is primarily in the formulation of detailed local measures for woods practice, although the opportunity is not closed for the consideration of any proposal submitted to the conference. It is expected that in the development of these local measures the Divisional agencies of the Lumber Code will draw freely upon the technical advice of the Regional Forest officers. The local measures formulated and other action taken by the Divisional agencies are to be submitted for further action at the second session of the conference on December 14.

THE BIG PARADE

The gigantic NRA parade, held in Portland the evening of Thursday, October 5, was the biggest thing in the parade line which Portland has ever witnessed. Conspicuous in the first division was the Forestry and Civilian Conservation Corps section, headed by Marshall C. J. Buck. This section attracted a great deal of attention and applause along the line of march, and was said by newspapers to be one of the most spectacular and attractive of any of the parade sections.

First came a C. C. C. man carrying a large green tree banner with the slogan "Forestry: The Dawn of the New Deal", followed by a large placard which read "The President's Emergency Conservation Work", and two large Forest Service shields. Next in line was the contingent of the men of the Regional Office, Experiment Station, and Mount Hood and Columbia Forests, - 90 strong.

Following these came the C. C. C. contingent, headed by a 7 foot corpsman carrying a large green tree banner with the slogan "Building Men and Forests in the C. C. C." About 400 members of the Corps followed, including men from Zigzag, Summit, and Wyeth camps on the Mount Hood; Sunset and Bonneville on the Columbia ; Yacolt State camp, and the Vancouver warehouse detail.

The men from Zigzag camp were the sensation of the parade, marching stripped to the waist, as they work. They also had a very attractive and interesting float, which followed the C. C. C. contingent.

The section was brought to a spectacular close by two red tank trucks and three red fire trucks, with sirens screaming.

The women of the Forest Service marched - about 48 in all - as a forestry section of the Federal Business Women's division.

All in all it was a big, successful evening. It is felt that our section did much to dramatize the Emergency Conservation Work to the Portland public, and to make them realize what has been accomplished. Both the members of the Forest Service and the parade officials appreciate the cooperation of the Army officers and the members of the Corps in making the division a success. Details and organization were handled by the Office of Public Relations. - From R-6 Bulletin.

THE FIRST WOMAN

By Emma H. Morton, R. 6

It is not Eve of whom I write, in this memorable first year of three point two, NIRA, The CCC, the ECW and the New Deal,-but Minet E. Sherman, Region 6 colorist, who is the first woman in R-6 to retire under the 30-year service law.

Miss Sherman began her work as a clerk for the Service in Washington, D. C., went to San Francisco when the western Forest Service exodus began in 1908, and later transferred to Portland on July 16, 1910, where eventually she became a colorist of maps, lantern slides, and photographs.

On October 12, more than 30 of her friends and office associates gathered at a dinner in her honor, to wish her good health, good luck, and bon voyage in that perpetual vacation land, the magic door to which Old Man Thirty-Year is to unlock for her on November 1.

YE EDITOR DISCOVERS

If a certain batch of purchase reports and options had arrived in the Washington Office in the morning mail instead of the afternoon mail on October 30, the Forest Service would have enjoyed the unique experience of submitting a forest land purchase program of more than one million acres at a single sitting of the National Forest Reservation Commission. As it was, the program totaled 954,632 acres, or almost twice as much as the largest area ever purchased in an entire fiscal year prior to the present one. In two instances practically entire administration units were created by a single action of the Commission, notably the Apalachicola in north central Florida, where 225,498 acres were approved in almost a solid body, and the addition to the Monongahela in West Virginia, where over 151,000 acres were offered and accepted in an almost solid unit. The sixty-day old Manistee unit in the lower peninsula of Michigan got off to a flying start with 68,480 acres, while the equally juvenile Leaf River unit in southern Mississippi and the contiguous Chickasawhay began their careers with 94,695 acres and 75,320 acres, respectively. After a long period of quiescence, the Vernon unit in Louisiana jumped quickly to two-thirds of completion, with 60,423 acres, while additions to the Kisatchie unit in the same State came quickly under administration to the extent of 67,952 acres. Offers in the Cumberland unit in Kentucky totaled 31,407 acres.

The foregoing were the high spots of the program, but there were almost thirty other units where the approval ranged from modest to very gratifying proportions.

Between the date of the President's first Executive Order of May 20 allotting funds for the purchase of forest lands and the date of the Commission's meeting of October 30, there was an elapsed period of 162 days. In that interim the Forest Service had assembled and submitted to the Commission for action purchase programs aggregating 1,896,491 acres of land. This was better than an average of 100,000 acres per day for the elapsed period. If Regions 7 and 9 can maintain anything like this pace during the next six months, the enlarged program of Eastern National Forests will be well on its way to completion by the end of 1934.

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The number of men (including men on contract work) employed on NIRA projects on November 6, 1933 and percent of total allotments by Regions were as follows:

	Men at Work		Allotment
Region	No.	Percent	Percent
1	1,017	7.4	14.9
2	1,586	11.5	4.5
3	2,141	15.5	8.7
4	1,624	11.8	7.3
5	843	6.1	21.3
6	2,699	19.6	12.0
7	869	6.3	13.5
8	18	.1	.3
9	2,539	18.4	9.9
Research	414	3.0	6.5
Biological Survey	40	.3	1.1
Total	13,790	100.	100

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Under the appropriation for public works, the Forest Survey in the southeastern region is rapidly taking form. It is hoped that in the eighteen months that this appropriation is available it will be possible to complete the Forest Survey for the entire turpentine belt from eastern North Carolina to southern Alabama, inclusive. The data will be compiled for release units of from five to eight million acres each.

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The thick forests of the Valley of Mexico, which have provided livelihoods for thousands during the last few centuries ,and have given Mexico City a huge supply of charcoal for fuel, and waxy woods for kindling, have been placed under complete government protection and will yield their riches only in conformity with a carefully outlined program, according to the Christian Science Monitor.

By a decree of the Ministry of Agriculture, the entire Valley of Mexico, containing about 1800 square miles, and within which is located the City of Mexico, has been declared a protected forest reserve on which not only will cutting of forests be regulated, but a systematic reforestation program undertaken. The decree does not involve any restriction on existing agriculture or grazing activities, provided they do not affect any forest lands.

This action was prompted by rapid deforestation which threatens the necessary timber supply; recognition of the necessity of trees to the system of natural springs which provide drinking water and to prevent erosion which seriously affects storage basins; realization that forests act as regulators of the temperature in the Valley and purify the atmosphere, and that turning them into farm tracts was impracticable and left large areas of land barren.

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The Forest Service has lost one of its strongest and most effective supporters in the House of Representatives through the death of Representative John D. Clarke of New York, who was killed in an automobile accident November 5. Mr. Clarke's active career, especially in its earlier phases, had brought him personally into touch with different manifestations of the forestry problem of the United States, so that from the time he first became a member of Congress his interest in forestry was keen and constructive. Although best known to fame as the co-sponsor of the Clarke-McNary Law of June 7, 1924, that measure was only one of many which received Mr. Clarke's earnest and effective support and the list of his contributions to progressive forestry legislation would be a long one.

In recognition of his interest in forestry, the Speaker of the House designated Mr. Clarke as a member of the National Forest Reservation Commission, and during each of the four meetings of the Commission which were held following his appointment he took an active and interested part, although attendance at each of the last three meetings meant a special trip from his home in south central New York. He merited the gratitude and appreciation of all persons interested in the cause of forestry in the United States.

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The Forest Service also suffered the loss of a stanch friend in the death on November 3 of Senator Kendrick of Wyoming. Senator Kendrick was a member of the Public Lands Committee, which handled many matters affecting the Service. He was recognized as one of the strong members of the Senate and his opinions on legislation carried a great deal of weight. He has been a grazing permittee of the Custer Forest in Montana many years. Because of his intimate knowledge of the grazing business, he was called upon by other permittees to assist in the settlement of many controversies regarding the use of National Forest range. The Forest Service always found in Senator Kendrick a spirit of fairness and sympathy toward the Forest Service administration and a sincere desire to see questions settled equitably.

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The appointment of Knowles A. Ryerson as Chief of the Bureau of Plant Industry, effective January 1, was recently announced by Secretary Wallace. Mr. Ryerson will succeed Dr. W. A. Taylor, who retires the first of the year after forty two years' service with the Department of Agriculture, twenty of which have been as head of the Bureau of Plant Industry.

Mr. Ryerson is now in charge of the Division of Foreign Plant Introduction, Bureau of Plant Industry. Our cooperative relationships with the Bureau will undoubtedly be helped by his long and continued interest in forestry, which dates back to his university training in California.

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Helen M. Moore, Librarian in the Regional Office at San Francisco, has taken the position of Librarian in the Washington Office, which Miss Stockbridge formerly occupied. Miss Moore is a graduate of the University of Washington and has had experience in several libraries in addition to her work in San Francisco.

Alice M. Meynes, who has been serving in the meantime, will return to her duties in the Section of Forest Measurements as soon as Miss Moore has thoroughly learned the ropes. In the months that the library has been without a regular librarian, Miss Meynes has handled the work most successfully.

IT CAN BE DONE

By Geo. A. Duthie, Washington

When our new Chief, F. A. Silcox, assumed the duties of his office on November 15 he found awaiting him some important and pressing problems. Foremost among them is the Forest Service part in the new Civil Works Administration program. Finding work for upwards of 500,000 men, hiring, housing, feeding, equipping and, perhaps, clothing them for winter operations in thirty days time is indeed a staggering proposition.

When it was announced at the Service meeting a thoughtful hush fell upon the group as the full portent of the plan seeped in. The silence was broken by one member with "Well - the Forest Service can do it". The grim smile on his face when he said it was reflected in the faces of the rest of the men as they nodded agreement. "We may have to make Regional Foresters of the Supervisors and Supervisors of the Rangers," said one, "but we can do it."

It is said that over the desk of the late Elbert H. Gary, during the time he was building up the great U. S. Steel Corporation, there hung a framed motto "It Can Be Done", and that the inspiration of that motto played a large part in the success of Judge Gary in his huge enterprises.

The experience of Forest officers in putting over the ECW, the Impnira, Devnira, the land purchase program, the Forest Survey, etc., has developed in them a confidence in the ability of this organization to rise to the emergency no matter what the project may be. We will have to expand and spread out in places until we hardly recognize ourselves and may never quite look the same again but, like Atlas of old, in every giant stride we make we imbibe new strength and vigor, so that we say with confident assurance, "It Can Be Done."

SERVICE BULLETIN

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>
> Theodore Roosevelt

Vol. XVII No. 25 Washington, D. C. December 4, 1933

TO MEMBERS OF THE FOREST SERVICE:

Due to the stress of closing my work in New York and assuming my new duties on November 15, it has been impossible for me to answer personally the many letters from friends and former co-workers in the Forest Service.

I am asking you now to let this general letter serve to tell you all how deeply and sincerely appreciative I am of your good wishes. It has been very heartening to have them. In all sincerity I am accepting the position of Chief of the Service with a full sense of humility and with a desire to realize fully the responsibilities of the task I have undertaken, together with the hope that I may redeem these responsibilities in the spirit of the creative social and economic movement now in progress designed to affect so deeply the future welfare of our country. I shall need the help and support you have so generously offered.

Sincerely,

F. A. SILCOX

Forester

F. A. SILCOX

Ferdinand Augustus Silcox was born in Columbus, Ga., December 25, 1882. He is a graduate of the College of Charleston, S. C., where he received the degree of B.S. in 1903, with honors in chemistry and sociology. In 1905 he was graduated from the School of Forestry, Yale University, with the degree of M.F.

The summer prior to his graduation from the Yale School of Forestry, Mr. Silcox worked as a forest student in the Bureau of Forestry of the Department of Agriculture, and was engaged in making a working plan covering approximately 60,000 acres of forest in West Virginia for the U. S. Coal and Coke Company. On July 1, 1905, he entered the United States Forest Service as a ranger, having passed the Civil Service examinations, and was assigned to duty on what was then known as the Leadville National Forest in Colorado. In September of that year he was placed in charge of the Holy Cross National Forest in that State as acting supervisor and early in January of the next year he was sent to the San Juan and Montezuma National Forests in Colorado to set up administrative organizations. After the completion of this work he served as a Forest Inspector in Washington, D.C., handling special assignments to the western States. When a district office was set up at Missoula, Montana, in 1908 he was made associate district forester. He was appointed district forester for the Northern Rocky Mountain region on July 1, 1911, which position he held until 1917.

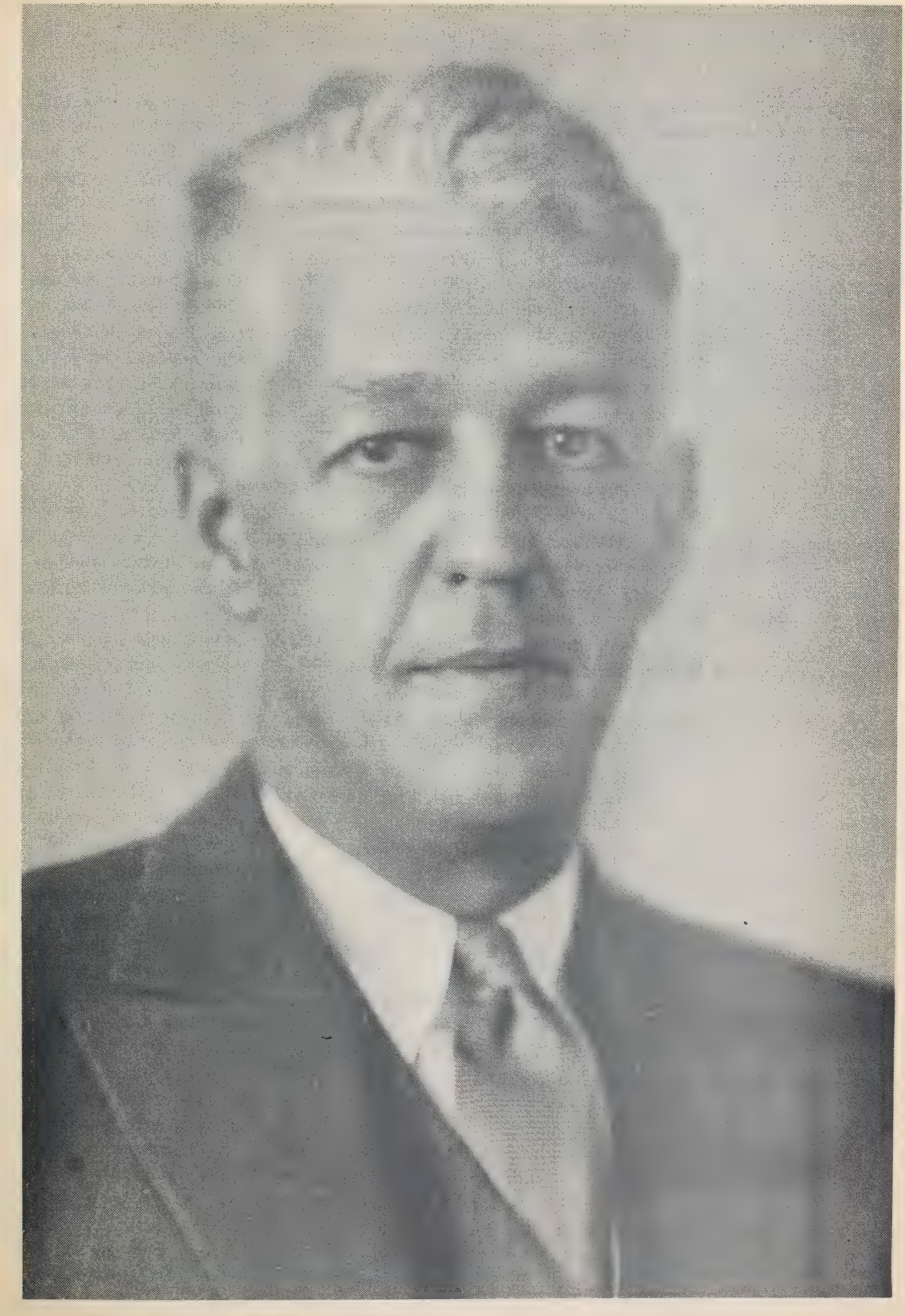
Shortly after the outbreak of the World War, he was given military leave and entered the 20th (Forest) Engineers of the American Expeditionary Force, with a captain's commission. After less than a year's service in this branch, he was selected by the Secretary of Labor and the Shipping Board to head a bureau to handle labor problems at the shipyards at Seattle, Wash.

Following the war Mr. Silcox went to Chicago as Director of Industrial Relations for the commercial printing industry, remaining there until 1922 when he became Director of Industrial Relations of the New York Employing Printers' Association. On November 15, 1933, he left the latter position to reenter the Forest Service as Chief Forester, succeeding the late Robert Y. Stuart.

Mr. Silcox was married in 1908 to Miss Marie Louise Thatcher of Charleston, S. C.

He is a member of the Society of American Foresters, Phi Kappa Sigma, and has served on the National Forest Policy Commission.

A photograph of Mr. Silcox appears on opposite page.



INEXPENSIVE WIND GAUGE

By H. T. Gisborne, Northern Rocky Mountain For. Expt. Sta.

The determination of wind velocity is so important, in many phases of forestry, that daily measurements are required at many forest stations. The standard three or four-cup anemometer has, in the past, been the only instrument available for this purpose, but because of its cost - about $75 - the number of stations so equipped has been decidedly limited.

Estimates of wind velocity have been made at some stations using the Beaufort scale of indicators, but the error of such estimates has been so obvious that several forest research agencies are working on or have worked out revisions of this scale. New indices have been determined for use in the Northern Rocky Mountain region, but even these permit only the determination of classes of velocity such as less than 1, 1 to 3, 4 to 7, 8 to 12, 13 to 18 miles per hour, etc. Accurate estimation of these classes is perhaps sufficient for some purposes, and it is essential in reporting fire behavior, but such classes are not as refined as desired for use in fire dispatching, for example, where differences of two or three miles per hour are often significant of changes that should be made in the strength of attack on fires.

Some sort of wind gauge has been needed to permit determinations of velocity to the nearest one or two miles per hour, and of such inexpensive construction that it could be supplied to numerous stations. Such a gauge must be simple to install, easy to read, and require a minimum of attention and maintenance. Like the buzzer type anemometers, which permit determinations of wind velocity for any half minute or minute period, this new wind gauge should also be designed so that if a central dispatcher, Ranger, or Forest Supervisor phones to a station and inquires concerning the wind velocity the local observer should be able to obtain a measurement without leaving his telephone.

Such a gauge has been built, and tested during the past summer at the Priest River Branch of the Northern Rocky Mountain Forest Experiment Station. This is an adaptation of an advertising sign recently used by one of the oil companies. The curved blade, of galvanized iron, revolves with the wind and by counting the number of revolutions during any period of time the wind velocity can then be determined by reference to a calibration chart. Annual testing for accuracy is accomplished by mounting the gauge on the front of an auto and driving the car at a constant speed along a straight road when there is very definitely no local wind. The number of revolutions per minute at speeds of 2, 5, 10, 15, 20, 25, and 30 miles per hour then furnish the basis for a curve which indicates the wind velocity for any number of revolutions, up to the limit of the observer's ability to count them.

The use of this method of calibrating has shown that, for the blade curvature used in these specific gauges, the upper limit of wind velocity measurable is between 26 and 30 miles per hour, depending upon the observer's ability to count fast and his speed of vision. The calibration of these wind gauges has encountered these human limitations, and it appears that even when the eye is aided by a daub of distinctively colored paint at the center of the blade where the movement is the slowest, the separate revolutions cannot be distinguished and counted accurately at a speed of much more than 240 per minute or 4 per second. Some observers have difficulty at first with rates of over 180 to 200 per minute, but all observers improve with practice.

Less curvature in the blade of the gauge naturally gives fewer revolutions per unit of time and therefore permits the measurement of velocities greater than 30 m.p.h., but experiments showed that when this was done there was a marked loss in sensitivity and accuracy in the lower velocities. As all winds of over 25 or 30 m.p.h. are extremely dangerous, insofar as fire control is concerned, it therefore seemed preferable to retain an accuracy of at least one mile per hour in the lower range, and two miles per hour from 19 to 24 m.p.h. (fresh winds), and class all velocities of 25 m.p.h. or more as one group. Tests and comparisons with a standard anemometer have proven that this can be done with the new wind gauge. (As this new device is admittedly not in a class with so-called scientific instruments it may be more fitting to designate it as a "wind gauge" rather than "anemometer.")

This gauge may be mounted on a short post, properly exposed to the wind, or it can be mounted in a "topped" tree 20 feet to 50 feet above the ground. If this mounting is made within visual distance of the observer's telephone, measurements can be made most conveniently and quickly. No electric wires, nor batteries, nor button, buzzer, and box are required, and the whole gauge costs less than a standard buzzer box alone. Yet for fire control purposes this guage provides all the useful information obtained from a standard anemometer which is mounted in a tall tree and measurements obtained by "buzzer readings" only.

The cost of these gauges depends, of course, upon several factors, including the design, finish, number to be made, etc. Using 16-gauge galvanized iron for the blade, a 3/8" cold-rolled steel supporting rod with the flat surface of one end resting on a 3/8" single ball-bearing in the capped end of the 1/2" iron pipe support, and with two brash bushings - one near the top and one near the bottom end of the pipe - these wind gauges can be made by any local tinsmith at a cost of less than $3 each. The blade, 20" x 4", is bent into a reverse curve, on a radius of about 5 inches, and is attached to the supporting rod by two cotter pins through a sleeve welded to the blade. This permits demounting the device for easy packing and shipment. A flat strap iron brace from tip to center to tip of the blade insures retention of the original curvature.

Revolution counters could be added so that the total velocity over a period of hours could be determined. But as this would add to the cost, increase the possibilities of mechanical trouble, and increase the friction and difficulty of calibration, such counters have been omitted from the present model. Numerous additional gadgets are readily conceivable, such as a metal spring to click audibly with each revolution, but in order to hold down the cost and to preserve mechanical simplicity none of these has been tried as yet.

PUERTO RICO IS DIFFERENT

By L. F. Kneipp, Washington

The average price for the 1,896,491 acres of land approved for purchase during the past few months has been $2 per acre. This creates the hope that the average cost of all the land purchased with the twenty million dollars allotted by the President will not exceed the $3 per acre to which the President tentatively referred at different times while he had the matter of allotment under consideration.

But purchases within the Luquillo purchase unit in Puerto Rico, according to Forest Supervisor Barbour, will have to be on the basis of much higher price levels. In Puerto Rico land is at somewhat of a premium, since approximately 2,200,000 acres support a population of over 1,500,000 people; of which 200,000 live within ten miles of the forest and nearly 500,000 within twenty five miles. This very density of population gives the land a value that in the continental United States would prevail only within the more heavily populated sections.

Then, too, timber products are at a considerable premium in Puerto Rico. Charcoal, for example, is the principal or almost the only fuel, and while construction needs are now largely being met by Douglas fir from the Pacific Northwest, dependence for termite resisting species, or wood suitable for cabinet and interior work still rests largely on the limited local supply.

In consequence, Barbour, after making all reasonable discounts, figures out a sale value of $6 to $8 per acre for the best site quality, designated as "cove"; $4 to $5 per acre for the next best site quality, designated as "slope"; $3 per acre for the Sierra Palm type; and $1.50 per acre for the dwarf forest, the stunted growth occurring on the highest ridges. Stumpage values to be allowed, where they exist, on offered lands will be $20 per thousand board feet for the superior species, $16 per M for the intermediate growth, and $14 per M for the least desirable species. The prices thus suggested are considerably below those actually received for timber cut from the National Forest lands. To avoid any impression that the timber sale purchasers are being horn-swoggled by such stumpage prices, Barbour's report indicates that the whipsawed lumber which they produce is readily salable in the local market at prices yielding the operator a good return on his operation.

Prices of $15 or $20 per acre therefore will not be surprising in connection with the Puerto Rican purchase program. However, the area to be purchased is relatively small and an important consideration is its power to produce almost unbelievable yields of timber in relatively short periods. Barbour casually referred to plantations of "Australian Pine" which at the end of ten years were 6.1 inches d.b.h. and 57 feet high, with a volume of 31.2 standard cords per acre. Plantations of Spanish Cedar contain specimens a foot in diameter at twelve years of age, creating the expectation that this species handled on a thirty year rotation will yield trees 18 to 24 inches d.b.h., averaging three 16-foot logs. Reference is made to twenty five year old Honduras mahogany trees 18 inches and 26 inches d.b.h. each with over 40 feet of merchantable length. Then Barbour begins to talk about "certain fast growing species of trees" which can be handled on a five year rotation and yield at least five cords of wood per acre per year. With such volumes and values practicable of realization, the prices suggested for the Luquillo purchase unit may not, after all, be very difficult of justification.

AX HANDLES

By F. W. Funke, R.5

During the past season some work has been done to remove the "loose ax handle" bogey. Briefly, the theory is this: It is sidewall pressure between the ax eye and handle which keeps the handle tight. The hygroscopic quality of wood, that is the ability of wood to absorb moisture and swell and give off moisture and shrink in cycles determined by the temperature and humidity of the atmosphere, is the recognized source of trouble. Various methods have been tried to overcome this trouble such as boiling in linseed oil, immersion in hard wax solutions, and others.

Each method produces partial success but not, however, without introducing some undesirable result such as sealing the wood structure and destroying the natural resiliency of the wood or its ability to give under stress, or producing a brashy or brittle condition in the handle. In wedging a handle which has been treated by a method which removes the life from the wood it is next to impossible to keep the bit tight without spreading the head or far end of the eye. Even then, the bit will stay tight for only a short time under hard use.

We know that wood under pressure can absorb only a given amount of moisture and that if we can confine it so that it cannot expand radially, the cyclic effect of expanding and shrinking with varying moisture content in the air should be eliminated. The problem, then, is to provide a means of introducing a normal sidewall pressure between ax eye faces and the handle and then maintain this condition during the life of the tool. This was accomplished by drilling a 3/16 inch hole through the ax eye and handle along the center line of the bit at a point about 3/4 inch in from the thin edge of the eye and handle. The faces of both ends of the hole are countersunk about 1/8 inch and a 3/16 x 1 inch countersunk rivet is set in place. The rivet finishes flush with the eye wall so there are no projections, and it introduces an initial sidewall pressure which seems to do the trick.

We have tried to loosen these handles by exposing them to alternate soaking in water and drying over a boiler, but they hold tight. In any event, should looseness ever develop, it would only be necessary to peen the rivets a bit to restore the pressure instead of rewedging the handle. Incidentally, ax bits will never fly off the handle. SDO will purchase a lot made up this way for use next season, but in the meantime, if anybody tries it out, we shall be glad to have his comment on the results. - From R-5 Bulletin

GOING UP

Timber sales receipts for the first quarter of F. Y. 1934 totaled $437,939.15, more than $250,000 over those for the same period in F.Y. 1933, and about the same as in the years 1917, 1918, and 1919. All Regions except 5 and 8 showed increases. Region 6 took in as much as did all Regions in the corresponding period of F.Y. 1933.

Of the increase, about $67,000 went into the rebuilding of advance deposits, which shrank greatly during the past three fiscal years. The value of timber cut in sales totaled $370,223.

The same rate of increase, compared with F.Y. 1933, may not be maintained through the present year, but the receipts for this first quarter are well over half of the total for F.Y. 1933. Even with the small payments to be expected in the third quarter, the present year ought to give reflection of the bettered business conditions in the form of a substantial increase in timber sales activities. - E. E. Carter

YE EDITOR DISCOVERS

At the date this is written (November 23) the prospect is that under the Civil Works program the Forest Service will only be called on to handle those men who can be worked on the National Forests from their homes. This will mean about 56,000 men. The expectation is that work done by the States within the field of forestry, which may bring employment to as many as 181,000 men, will not be under the jurisdiction of the Department of Agriculture and the Forest Service but will be handled directly between the Civil Works administration and the States. Federal agencies will probably be expected to handle a quarter of the four million men to be given Civil Works jobs, but the employment of men on National Forest work will have to be coordinated with other Federal projects and with the State quotas, which are based 75 percent on a population basis and 25 percent on a relief load basis.

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The Bureau of the Budget hearings for the Department of Agriculture are scheduled to commence on November 27. This is months later than they have ever occurred before. Director Douglas has announced to the newspapers that, generally speaking, appropriations for 1935 will be the same as the authorized cash withdrawal figures for the fiscal year 1934. He has also indicated that the 1935 appropriations will include an addition sufficient to restore the 15 percent pay cut if cost of living indices or new legislation should lead to a modification or revocation of the present pay cut.

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A comparison of number of men (including men on contract work) employed on Nira Projects and percent of total allotments by Regions follows:

	Allotment Per Cent	Men at Work						
		Sept.11	Oct.2	Oct.16	Oct.30	Nov.13	Nov.20	Percent of men Nov.20
R. 1	14.9	975	1220	1643	1349	894	773	5.1
R. 2	4.5	12	968	1316	1616	1575	1535	10.2
R. 3	8.7	114	1348	1911	2146	1969	2051	13.7
R. 4	7.3	611	1879	1981	2077	1558	1493	10.0
R. 5	21.3	150	219	519	568	997	1233	8.2
R. 6	12.0	326	1198	1888	2482	2786	2804	18.7
R. 7	13.5	76	390	500	587	944	1359	9.1
R. 8	.3	0	0	7	18	61	17	.1
R. 9	9.9	78	1472	1983	2386	2756	3189	21.2
Research	6.5	-	108	354	422	461	482	3.2
Biological Survey	1.1	-	-	-	20	67	75	.5
Total	100.	2342	8802	12102	13721	14068	15011	100.

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Purchases of truck trail machinery for the ECW work under the latest authorization by Mr. Fechner have been completed except for the item of compressors. In this instance the prices asked by the manufacturers was so very much higher than we have been paying that it was necessary to recommend rejection of the bids or stand convicted of willingness to purchase at indefensible rates. Purchase of used compressors may be attempted, or, under negotiations now going on, compressor manufacturers may find a way to offer better prices without violation of the obligations they consider they have assumed to each other under their codes.

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The Civil Service Commission has received as a result of the recent examinations for Assistant Technologist, Junior Forester, and Junior Range Examiner approximately 2,000, 1,500, and 500 papers, respectively. In the latter two examinations the questions were arranged on the short-answer type, so that grading will be a comparatively simple matter. It is quite probable that all the grading will be completed within a very few weeks after all the papers have reached the Civil Service Commission.

A forecast has been made by the Commission that something like 2,500 persons will take the Conservationist examination, which has just been announced. This examination provides for a number of grades.

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Five weeks after the latest bids on ECW trucks were opened, purchases were still hung up on account of the fact that Ford was the low bidder and Ford's status under the NRA has not been finally determined. Various other means have been considered for meeting the emergency arising from the fact that ECW camps moved to eastern winter locations are in many instances partly or wholly without trucks. At the date this is written none of these feverish efforts to meet the emergency have accomplished anything.

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ECW publication No. 3, "Stand-Improvement Measures for Southern Forests", has been issued and is available for distribution. It applies particularly to the forests of the Coastal Plain from Virginia to Texas, inclusive. It deals not only with the pine forests but also with the bottom lands.

THE FILE CLERKS' LAMENT

Pity the poor file clerks in the Washington Office. How are they to produce papers requested by men who always want what they want when they want it? Operation and Research as well as Accounts handle appointment matters. Sometimes it's Engineering and sometimes it's "O" that writes about ECW and NIRA purchases of trucks and other things. Forest Management handles reallocation of space in the building incident to removal of Region 7 to another building. Grazing handles retirement matters, improvement of Mud Creek on the Shasta, ECW monthly accomplishment reports and our best seller, the removal of the Forest headquarters from Wallowa to Enterprise-- except that sometimes Mr. Keplinger handles this last one. Public Relations handles allocation of National Forest camps and both Operation and Engineering handle purchases for State camps. Sooner or later every Branch will probably have handled everything.

All these men think they know what they are doing; but if so why don't they use the correct file designations and return the files they use to the proper places? They seem to find a lot of satisfaction in all this work but they needn't be so cross when papers cannot be produced because they have asked some one to work on them but have forgotten who it is.

We wonder if Regional Office file clerks are having similar troubles.

MISS FANNY MAY ALLEN RETIRES

Miss Fanny May Allen of the Washington Office retired under the 30-year rule November 30, having completed 33 years of work for the Federal Government and having been connected with the Forest Service since its organization in 1905. Previously she served with the Division of Forestry, having joined the division January 30, 1900, while the division was under the direction of Gifford Pinchot who later became the first Chief Forester of the Forest Service.

Miss Allen came to Washington from nearby Maryland and attended the high schools and Columbian College, now George Washington University, here. She became secretary to President R. L. Whitman and came directly from the college position into the Division of Forestry. In February, 1905, she attended the famous Conference of Governors, which was addressed by President Theodore Roosevelt on conservation and ushered in the Forest Service as now constituted.

In forestry work, Miss Allen was secretary successively to W. L. Hall, extension forester and forest management chief, and Captain James B. Adams, chief of operations, in the formative years of the Forest Service. For two years, 1908 to 1910, she was employed in the regional office at Albuquerque, N.M., as secretary to Arthur C. Ringland, district forester, later U. S. Forestry representative in Europe, and now representing the Forest Service in Civilian Conservation Corps work in the Southeastern States.

Miss Allen has the distinction of having served during the terms of all the Chief Foresters, - Gifford Pinchot, Henry Solon Graves, William B. Greeley, Robert Y. Stuart, and with the present F. A. Silcox.

"You may retire from the Forest Service but you can never retire from the place you fill in our hearts and memories" writes Associate Forester E. A. Sherman for the bound book of letters Miss Allen received from her friends.

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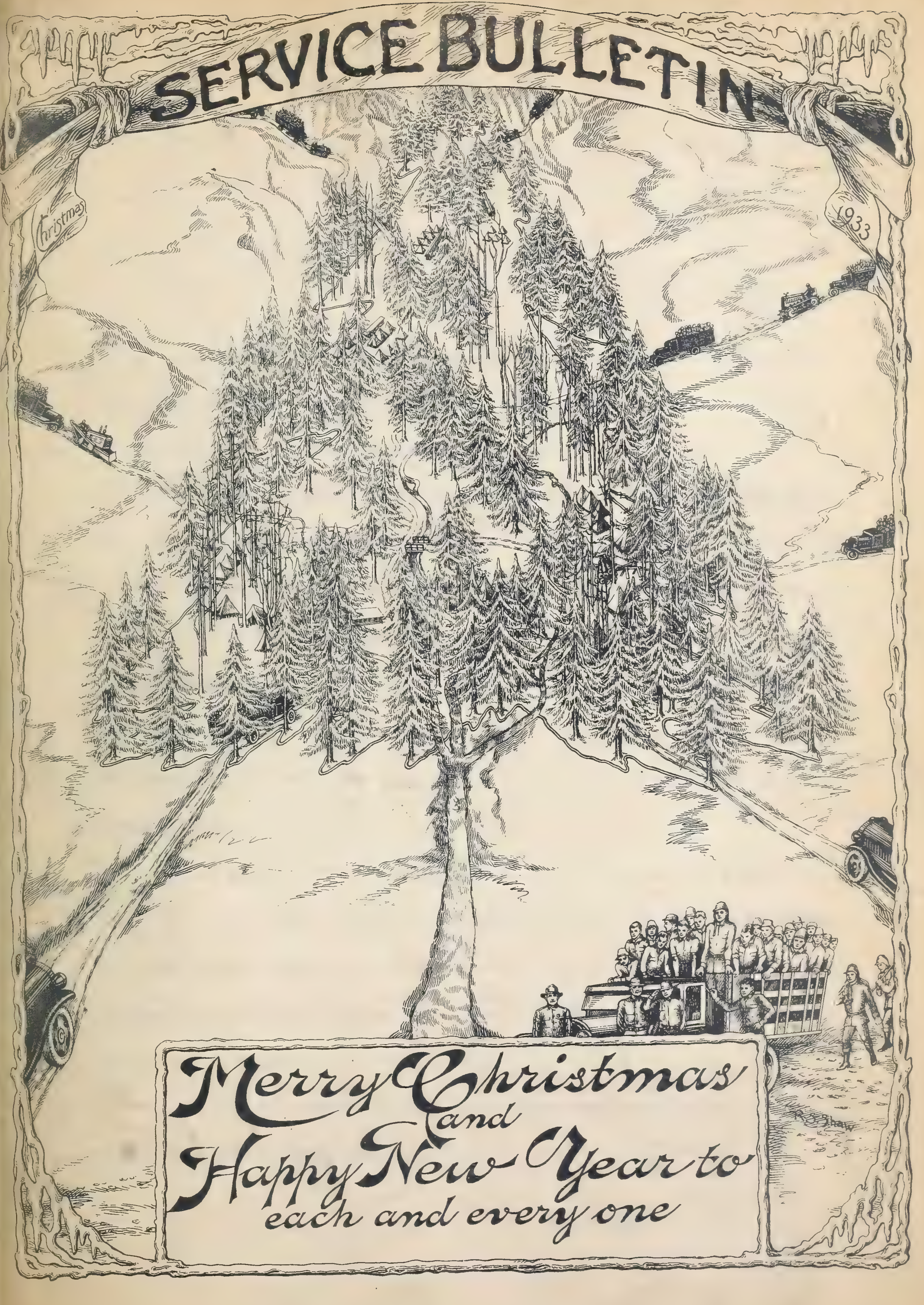
SERVICE BULLETIN


Christmas
1933
R.S. Shaw

Merry Christmas and Happy New Year to each and every one

SERVICE BULLETIN

Vol. XVII No. 26 Washington, D. C. December 18, 1933

A GREETING

I return like the prodigal to the Forest Service fold on the eve of the holiday season and with something of the feeling of coming home after a journey.

I find its members building a new edifice - one into which the various building blocks of conservation are being stoutly, and I hope, firmly, fitted to withstand the buffetings of future years.

I look forward eagerly with you, sure of the unfailing help I shall receive and shall need from you, to the waking of the slumbering giant of public opinion, who presently shall realize the true meaning of your years of stout faith in, and untiring zeal for, conservation.

This giant can be a powerful ally, or an equally powerful foe. It is my hope that to the Forest Service, which has deserved it, will be extended a generous measure of approval for past accomplishments and stout support in future efforts in which you and I will work together.

I extend to each of you my sincere best wishes for a Merry Christmas and a Happy New Year.

F. A. SILCOX

CHRISTMAS AND THE FOREST SERVICE

By E. A. Sherman

The Christmas festival has a special significance for the Forest Service, since around the symbol of our organization -- the tree -- are centered its ceremonies, fruits, and memorials. The nature of our work, the origin of the Service, and the devotion of its members to the idealism of the Service all bear evidence of the spirit of good will toward men. As a rule mankind works solely for himself and his direct dependents; he plants for his own harvesting -- but foresters by the very nature of their activity take a broader view. He who creates a forest bestows upon his fellowman benefactions exceeding those which he himself enjoys. He has a monopolistic share of only a minor part of the fruits of his creation, and even these are usually enjoyed by his heirs rather than himself. The forester's monopoly over the tree of his creation is limited to its wood, its fruit and shade. Its beauty forms a part of the landscape and belongs to every eye that beholds it. The wild life for which it furnishes food and covert delights the surrounding population and is an asset to the State. The clear waters from its spring-fed streams flow as public property, untrammeled to the sea. In winter the forest softens the touch of the most icy blasts, and in summer cools the withering breath of the sirocco. In all these beneficial influences the earthly creator shares simply as a member of the human family, finding no small part of his compensation in the satisfaction of promoting the feeling of "on earth peace, good will toward men".

At this Christmas festival the members of the Forest Service, individually and collectively, have special reason for rejoicing at the opportunity which came to them during the past year of translating into concrete accomplishment the ideals of the Forest Service as a good-will organization. Through wise and humane leadership we have had an opportunity to participate in the economic salvation and in the character building of a quarter of a million young men who without the helping hand of society would have been left stranded on the lee-shore of an inhospitable social order. The emergency was not of their making and the opportunity was not of our creation, but both Forest officers and E.C.W. boys have good reasons at this Yuletide to rejoice -- the first at having risen to their responsibilities, and the second at having manfully seized their opportunity. Many Christmas seasons have been more merry than this, but none have had more reason to rejoice in the prevalence throughout the nation of the spirit of "good will toward men". It is a spirit that appeals alike to old and young, that awakens recollections smoldering unextinguished in the memories of the aged and brightens with a magic touch the hopes of youth, making the future years beckon as a happy adventure.

CHRISTMAS, 1933

By Herbert A. Smith

Who says there is no Santa Claus? Surely not the Forest Service, this year. The old gentleman came around a trifle early, it is true, but he stuffed the official stocking to the limit - it's all knobby and bursting. C.C.C., acquisition funds, Impnira, Devnira, Hynira - the orphan child of past years never dared even dream of such a lot of gorgeous toys to play with.

Doubtless some will ask, Why bring all that up? What has the New Deal rejuvenation and sudden affluence of the Forest Service to do with the Christmas cheer at home? Our individual stockings don't look so very plump. The pay cut, continued no-promotion policy, extra work to the limit, tough times for everybody everywhere - why get particularly excited over Christmas, 1933?

A lean stocking is a lot better than none. Plenty of people would be mighty glad to swap with us. But if I know the Forest Service - and I ought to, after 33 years of membership in it - we don't get all our compensation via the fiscal agent, by a good deal. We like our jobs - if we hadn't liked them, these many years, most of us would be working somewhere else, or perhaps, right now, not working anywhere. And one reason we like the jobs is that we like working in the "Forest Service family".

Christmas is a family day. Its approach brings each year a new stirring of the common feeling, based on common interests. We think of the multitude from Maine to southern California, from Alaska to Florida and Puerto Rico, many of whom we have never seen, but all of whom belong; and the air is alive with wireless greetings and good wishes, speeding back and forth. The Christmas issue of the Service Bulletin is just a tangible and material reminder, through the poor medium of paper and type, of something equally real, and much more vital and heart-warming.

I do not know how it began - this sense of comradeship, of solidarity, of shoulder-to-shoulder in the Forest Service. In Washington, for those of us who signed up long enough ago there is the remembrance of Harry Towers, lover of little children and friend of all - the man who started our annual family Christmas observance here. For us his gentle spirit seems ever-returning, invisible, as the very patron saint of the gathering. Undoubtedly something began with him. But esprit de corps means more than a friendly good fellowship. It is born of a consciousness of a common purpose and a certain degree of common life; and it is christened in combat. The true strength of the Forest Service is to be found in the fact that it is and always has been a fighting organization - militant in a public cause, and proud of its history. Is there any old-timer of us all, I wonder, who can look back over the years and not feel they have been years of constant welding together into a more and more united, efficient body of workers for the public welfare? We want, not an easy life, but a greater task and opportunity; and that is why Christmas, 1933, looks mighty good to us. We face eagerly and joyfully ahead.

But we are not all old-timers - and that is fortunate. The new-timers are coming in. Lots of them. Speaking for one old-timer in the Washington Office, I can say that the Atlantic Building seems so full of new faces these days that one almost wonders where he is. But in whatever part of our far-flung organization they have come in, we give them greeting and hearty welcome. They too belong; they have joined the Forest Service family, whether they know it or not. We hope they will grow to like its ways and institutions as thoroughly as we do. Whether rubbing elbows with us in city office or on lonely station far in the hills, the same message flashes across to them that is being interchanged from and to every point on the map where flies a Forest Service flag - MERRY CHRISTMAS, AND HAPPY NEW YEAR!

REALIZATION

By L. F. Kneipp

The last Christmas number of the Bulletin discussed the subject of "Opportunity", the broad field of human service which circumstances had opened to the members of the Forest Service, with the observation that it would be interesting to note a decade or more thereafter how fully the current generation of foresters, and particularly the current membership of the Forest Service, had availed themselves of the dawning opportunity for creative and constructive service. The article was a correct diagnosis of the trend of events, but a serious underappraisal of the speed and effectiveness with which the Forest Service would organize to meet the new order.

Within the brief period of 350 days the pine tree of the Forest Service symbol has become a veritable "sheltering pine", commanding not alone the respect and gratitude but also the affection of the people of a thousand far-flung communities. Within its every zone of influence it has stood for practical relief and aid, for hopefulness in the future, for the preservation and permanence of the standards, institutions, and ideals that really count for the most in the minds of the men and women who know and cherish it. The passage of a decade has not been necessary to show how fully and quickly the members of the Forest Service were prepared to do their part.

The most dramatic event of the year was, of course, the fruition of the CCC program. The collection of scores of thousands of young men from the streets of cities and out of the "jungles" of hobo-land, and off the roofs of freight cars and out of the sloughs of despair, their organization into units of clear-eyed and cleared-visioned, self respecting individuals imbued with a desire to work creatively, will rank as an epic in our national history. But that was merely one of several phases of the part taken by the Forest Service in the program of national recovery. In scores of little economically underprivileged communities other constructive activities of the Service substituted hope for despair. It is a safe prediction that never again will a member of the Forest Service have to assume either a defensive or explanatory position against adverse sentiment, so long as the spirit that has animated the Service during the past year continues to prevade it.

But what thus far has been done is but a part of what must be done to meet the responsibility of the Service in the development of a sound economic order. At present the lands classed as forest represent one-fourth the entire land area of the continental United States; ultimately one-third of the nation's lands will be devoted to tree growth for one purpose or another. These lands must do their part in the maintenance of all our national institutions. They must not only conserve soils and water resources and produce timber and forage and minerals and hydro-electric power and the other elements essential to the satisfaction of human wants but for a considerable part of the population they must afford the bases of a satisfying way of life, economic opportunity and security, sound forms of political government and social organization. The forester of the future will be growing trees not as an end in itself but as a major means of sustaining the best ideals and traditions of American life. The net result of his efforts will not be so many cubic feet of timber per acre, but rather so many American citizens per community, each attaining in fullest practicable measure the boons and blessings of his or her citizenship.

The challenge to all foresters, and particularly to the members of the Forest Service, is greater than ever. What they accomplished during the year just ending is not the completion of any measurable part of their job, but merely a demonstration of their ability to handle that job. They may not be so driven as they were this year by the scourge of depression, but they will be faced incessantly by the knowledge that upon the success of their efforts will depend the welfare of millions of their fellow citizens.

CHRISTMAS 1933

By Roy Headley

What a lot of ground has been covered since Christmas 1932! If I had any slightest doubt on the point, it would be completely removed by reading my last year's Christmas story. Then, we were recovering from the by no means groundless fear that we were to be smashed like an eggshell under the heel of rugged individualism. Now, our possible future as a keen and flexible instrument for service to the public interest opens up in vistas of undreamed length and breadth. Then, we had no assurance that the Forest Service had a future. Now, our chief concern is whether we have sufficiently trained ourselves in the ways of rigorous intelligence, public education, and financial and managerial disciplines to permit us to grasp the opportunities which the march of time has flung in our laps.

It is true that, as we expected, our regular appropriations have been cut to the marrow of the bone and that if the flow of emergency funds should suddenly stop, even our boasted financial ingenuity would probably leave us crippled for the attempt to carry all our new loads; but it is not wholly Pollyanna to think that the new recognition accorded our branch of public service will protect us from financial collapse.

From the personal angle, we cannot forget the pay cut nor the stunning way in which some of the things we have to buy have risen in price. But apparently the pay cut is actually to be revoked and job security is enormously increased.

In the social field, it is true that nothing much more than a statistical dent has been made in the agony and degradation of unemployment. But we know that in addition to ECW, Nira, and Acquisition, we are doing our part in a new reemployment program the boldness and scope of which, even if not equal to the demands of the human problem, are at least miles and millions beyond anything ever before attempted in this country.

We may not be able to solve the riddle as to how even all that is being done can possibly bring National recovery of things really worth recovering. But surely we are not kidding ourselves when we say that a hitherto undreamed process of mass education is a reality right now. Nothing fundamental in rebuilding our broken down social and economic systems is possible until the rigid rut walls of the American mind have been broken down. Before any fundamental reconstruction can take place, there must be a break-up of the anti-social prejudices and sophistries with which we have been indoctrinated for the benefit of small and selfish but clever groups. And that, at least, is being done. Men who challenge ancient social and economic doctrines no longer have to hide in dark alleys. Who would have predicted a year ago that in November, 1933 and under perfectly respectable auspices, the Assistant Secretary of Agriculture and Harry Laidler, Director of the League for Industrial Democracy, would have an interview or dialogue over a national radio hookup with each man understanding the other and respecting his views?

Miracles have also happened in our own special National Forest world. Twenty-three years ago Ranger Bob Finley proposed that we drop grazing, timber sales and everything else for a year and concentrate instead on production of the physical improvements, which we then thought would enable us to stop fire losses from exceeding timber growth. Unconventional and disapproved, of course; but not so foolish at that. In 1932 we still did not have what we needed. But in 1933-34 we get protective, timber cultural, administrative and recreational improvements almost beyond the dreams of bureaucratic avarice. If we do not deliver tight protection on the National Forests from now on, it can not be attributed to the lack of physical improvements.

But the chief whose fate it was to lead us through the dark days is not here as the sun begins to shine again.

VERTICAL AIR CURRENTS MAY EXPLAIN OCCASIONAL LONG DISTANCE SEEDING FROM FOREST TREES

By Leo A. Isaac, Pacific Northwest For. Expt. Sta.

Recent work on aeronautical meteorology both in this country and abroad gives some information on vertical air movement that may clear up some heretofore unexplained long distance seeding from forest trees. Topography and obstacles are causes of upward air currents, but the most common and effective cause is uneven heating of the atmosphere close to the surface.

Dr. K. O. Lange reporting one of many tests with balanced pilot balloons (NACA Technical Memo. No. 648-1931) states: "The balloon, released on the ground, shoots by a horizontal wind velocity of 14 miles per hour to a height of more than 3300 feet at a maximum rate (of rise) of 11 miles per hour. And such cases are not at all rare; neither are they confined to hilly or mountainous country, but occur over flat country as well". In summarizing, Lange says, "An adiabatic temperature distribution produces irregular up and down currents which extend from the ground to great heights and frequently attain a velocity of 11 miles per hour. They almost always appear on cloudless days as well as on days when the sky is clouded with cumuli".

Gregg (Aeronautical Meteorology, page 285-1930) reports measured ascending air currents of velocities up to 18 miles per hour on cloudless days. He further states that the most favorable time for vertical disturbances in the air over land is in the late afternoon.

The rate of fall of coniferous tree seed is from 2 to 5 miles per hour, varying with different species. Since vertical air currents often equal or exceed the rate of seed fall, it is easy to understand occasional instances of unusually long distance seeding from forest trees.

A GOOD-WILL WISH FROM YE ED

The Editor and his Assistant wish to thank contributors for their interest and assistance through the year in making the Bulletin readable and informative, and to express their sincere best wishes to all of the widely scattered Forest Service family for a Christmas abundant with turkey, plum pudding, and gifts, and a New Year filled with happiness and hard work.

FALL PLANTING

Over 48,000 acres of National Forest land were planted in the fall of 1933. Of this area, about 39,000 acres, mostly in the Lake States, had the trees set out by men from the CCC camps. The other 9,000 acres were covered by men paid from the allotment from the Public Works Administration for improvement of the National Forests.

The fall season is a satisfactory time for forest planting in some regions and on some soils, especially in the Lake States, but experience has shown that good results can be obtained only with spring planting in other regions, such as Colorado. In part of the South, far better results are obtained by planting in mid-winter than at any other time. It is "planting season" somewhere in the country-wide National Forests all the time from September to June, but not during the summer. Most of the E.C.W. camps were established too late in the season of 1933 for spring planting, but about 4,500 acres were planted in Pennsylvania, Wisconsin, and Michigan during late May and early June; so the total E.C.W. planting, spring and fall of 1933, was about 43,500 acres. This total may be increased somewhat during the early winter by work on the National Forests in Louisiana and Mississippi, with the Forests in Arkansas starting this work in February or March.

Preliminary reports, subject to minor correction, from the Regions which do planting regularly show the following fall accomplishment.

Area Planted, Fall 1933

Region	By E.C.W. Crews	By Impnira Planting Crews	Total
1	0	4,000	4,000
2	0	0	0
5	23	0	23
6	920	0	920
7	1,800	0	1,800
9	36,302	5,516	41,818
	39,045	9,516	48,561

Some of the area in R-9 planted by Impnira crews had had the ground prepared by E.C.W. men during the summer. - E. E. Carter.

HUGH B. RANKIN RETIRES

Hugh B. Rankin, Supervisor of the Rogue River National Forest since 1920, was retired on November 30, after more than 26 years of govermnent service. He leaves the Forest Service under the 62-year retirement provision applying to Forest Supervisors, Rangers, and other field going men.

In 1908, when the Forest Service as an organization was almost in its infancy, Mr. Rankin began his forestry career. His first assignment was that of forest guard on the old Blue Mountains (east) Forest in eastern Oregon. By 1911 through ability and hard work, he had earned promotions successively through the grades of Assistant Forest Ranger, and Forest Ranger on the Whitman Forest, to the position of Supervisor of the Umatilla Forest. In 1912, he became Supervisor of the Siuslaw Forest, with headquarters at Eugene, Oregon, where he remained until he came to Medford to assume the supervisorship of the Rogue River, one of the most important National Forests in the North Pacific region.

Many outstanding improvements have been made, and a high standard of efficiency maintained on the Rogue River Forest during the almost fourteen years of Rankin's supervision, according to the Regional Forester. Destructive forest fires have been held to a minimum, and the transportation system in the form of protective roads, trails, and other improvements has been greatly extended throughout the Forest.

In addition to handling his administrative assignment, Mr. Rankin has been greatly interested in civic enterprises and community life, and has made many friends not only for himself but for the Forest Service as well. He plans to make his future home on his ranch near Medford. - Region 6.

NIRA

(with apologies to everybody)

The shades of night were falling fast
As through the 'Lantic Building passed
A man who bore, with manner wise,
Some papers with a strange device
Impnira !

His brow was sad; his eye beneath
Flashed like a falchion from its sheath,
And to a question rashly asked
The still strange reply was passed
Hynira !

In happy homes he knew the light
Of household lamps was gleaming bright
Above the spectral shadows shone,
And from his lips escaped a groan,
Devnira !

A still small voice then said to him,
He heard it speak, his eyes were dim.
"Although for you the work is hard,
Some other's want you may retard
See Nira !

"Can a hundred fires be made to glow
Before dread winter's sleet and snow?
Can you to them now bring relief?
The time now passing may bring them grief
Try Nira !"

A conference quick of all concerned,
A plan for work is now discerned.
And, upon high-ups approved conditions,
A hundred men will find positions
Pass Nira.

In hundred homes the lights now shine,
In hundred homes the inmates dine,
In hundred homes a peace now dwells,
And every heart the chorus swells.
Bless Nira.

-- Maud A. Bell.

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